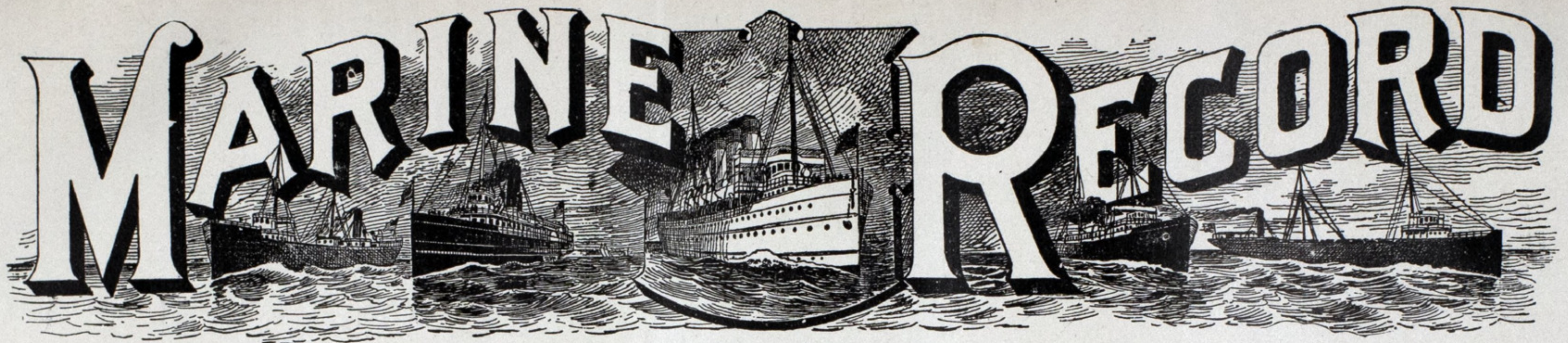


SUPPLEMENT.



ESTABLISHED 1878.

VOL. XXI, No. 19.

CLEVELAND--MAY 12, 1898--CHICAGO.

\$2.00 Per Year. 5c. Single Copy.

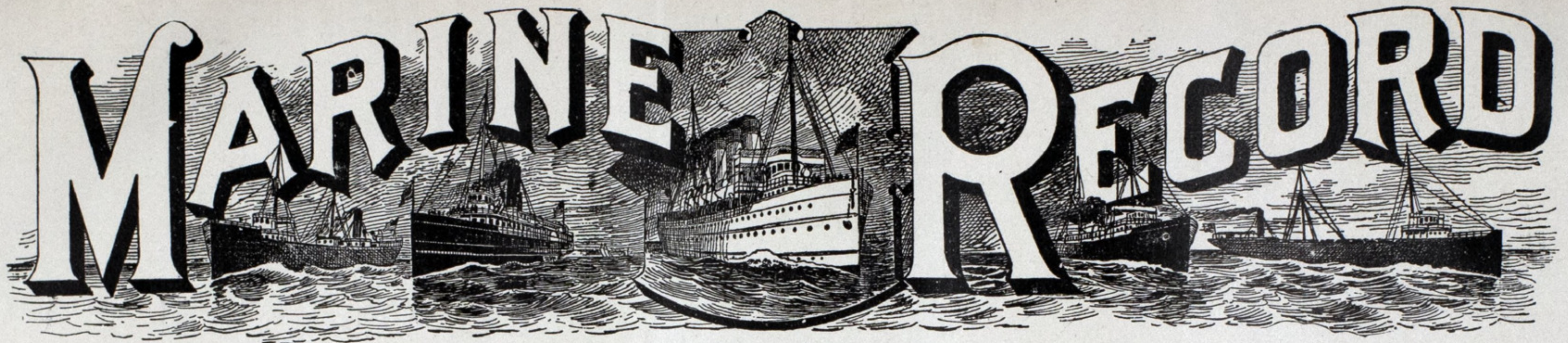
## WIND-BAROMETER TABLE FOR THE GREAT LAKES.

BY PROF. E. B. GARRIOTT, WEATHER BUREAU.

HEIGHT OF BAROMETER LAKE LEVEL.	DIRECTION OF WIND.	CHARACTER OF WEATHER AND WIND INDICATED.
29.40 to 29.60, and steady .....	West .....	Fair, slight changes in temperature, gentle to fresh winds.
29.40 to 29.60, rising .....	West .....	Fair, cooler, fresh west to northwest winds.
29.40 to 29.60, falling .....	South .....	Warmer, increasing southerly winds.
29.60, or above, falling rapidly .....	East to South	Warmer, rain or snow within 36 hours, increasing east to southeast winds.
29.60, or above, rising rapidly .....	West to North	Cool and clear, quickly followed by warmer, variable winds.
29.60, or above, steady .....	Variable .....	No immediate change, but winds will go to south inside of 36 hours.
29.40, or below, falling slowly .....	South to East	Rain or snow, increasing easterly winds.
29.40, or below, falling rapidly .....	South to East	Rain or snow, high easterly winds, followed within 48 hours by clearing, cooler, west to northwest winds.
29.40, or below, rising slowly .....	South to West	Clearing, colder, fresh to brisk west to northwest winds.
29.20, or below, falling rapidly .....	South to East	Severe storm of wind and rain, and wind shifting to northwest within 36 hours.
29.20, or below, falling rapidly .....	East to North	Severe northeaster, with heavy rain or snow, and winds backing to northwest.
29.20, or below, rising rapidly .....	Going to West	Clearing and cooler, probably cold wave in winter.



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# MARINE RECORD

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CLEVELAND---MAY 12, 1898---CHICAGO.

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## LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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## TRANS-ATLANTIC PIGEON SERVICE.

Capt. Renaud, of the Compagnie Trans-Atlantique, who, on the occasion of his last voyage to New York, on the Bretagne, had carried out experiments in pigeon flying at the request of his company and the Minister of War, has returned to Paris, and has given in his report. Taken as a whole, the experiments are more satisfactory than could have been expected. Most of the pigeons released from the ship at sea returned to their houses, or, where carried out of their course by the force of the wind, took refuge on passing vessels. In some cases the birds were thus blown to immense distances, but were ultimately recovered, so that but few pigeons were lost altogether. Before the Bretagne sailed from Havre the company notified breeders and fanciers that the birds which returned home should alone be awarded a premium, and as the breeding season had begun, only about a hundred carrier pigeons were entered for the experiments and entrusted to Capt. Renaud.

The following are the main particulars of the report on the interesting event. Four birds were released when the Bretagne was only thirty-two miles from land. They were all back with their messages within a few hours. It may be remembered that later on, while the Bretagne was off the Scilly Islands, she fell in with the disabled Bothnia, and rescued her crew of nine, two of whom were dead. Seven pigeons were released on that occasion, in spite of the bad weather prevailing. The birds rose to a great height to take their bearings, but unfortunately the gale was too strong for them, and they were seen to cease flying, and allowed themselves to be carried away on their outstretched but motionless wings. One of the birds alighted the next day on a collier in the Bay of Biscay, some three hundred and twelve miles off, thus fulfilling its mission of bringing the news of the accident to the Bothnia. None of the other six have been

heard of. The weather being still very bad, and the entreaties of the fair passengers of the Bretagne exceedingly urgent, no other birds were sent up until the vessel was about half-way across the Atlantic. As it had been agreed that the best bird should be sent up from that point, when the moment came, Capt. Renaud had it brought to him. Once more the ladies pleaded hard, but in vain, and the matter was compromised by allowing one of their number, a young American lady, to set the bird free. Contrary to expectation, it flew direct to America, where it was picked up at a spot about eighty miles from New York.

On the return voyage the Bretagne took away from New York a batch of about fifty birds, which were released one, two, and three days out. Of these the company have no news. The birds remaining in hand were freed while the vessel was two hundred and fifty miles, one hundred and eighty-seven miles, and one hundred and twenty-five miles respectively from Havre. Most of these were back in Havre or Rouen the same day, the remainder the next or following days. The exact date and time taken are not known, as the owners of the birds had taken no measures to verify the time their birds got back to their cots. The main point, however, is that none were lost.

As this first trial has been so far satisfactory, the experiments are to be continued, and great care is to be exercised in the selections of the birds, so that a regular and reliable service may be established on the steamers in the interests of the passengers chiefly. In all cases three of the best birds, well known as long-distance flyers, will be retained for cases of emergency. It appears that birds found with a full stomach on their return are pitilessly sacrificed, as it is a clear proof they have stopped on their way to feed, and thus running risk of attack by a bird of prey. Indeed, this occurred with one of the birds from the Bretagne, which carried a message from a lady passenger. On reaching land it had rested, and thus gave a chance to a sparrow hawk, which struck it on the head. The pigeon managed to escape, however, but the message reached its destination only yesterday—that is to say, four days after the arrival of the Bretagne.

## A SUBMARINE BINOCULAR GLASS.

A writer in a German paper states that an engineer of Cracow has invented an instrument of great value for making examinations of submarine work in engineering, inspecting the hulls of ships, or for uses of similar nature. The instrument is, in effect, a binocular glass with extended barrel. It is stated in the description that it consists of three parts, a closed box about one foot in diameter, a zinc diverging tube, and the portion in which the lenses are fitted. The box is made of sheet iron and is closed below by a plate of glass which is packed between rubber washers. Iron projections upon the bottom of the box protect this glass plate from rough contact with the channel or ocean bottom. Electric wires are carried down inside of the tube and the field for exploration is thus illuminated, within the range of the lenses, by external incandescent lamps. With the necessary provisions for withstanding water pressure, this general arrangement constitutes the construction of the instrument used for vertical exploration. When it is desired to make lateral observations a different box, containing a mirror placed at an angle of 45 degrees is employed. It is said that successful experiments have been made in the manner described with tubes fifty feet in length.

ENSIGN DAY, U. S. N., in charge of the Duluth Hydrographic Office, has been ordered to join the U. S. S. Topeka, and until further orders Capt. Frank Henrich, nautical expert, has been placed in charge. It is a pleasure to learn that a lake shipmaster has been found duly qualified to fulfill the duties devolving upon an officer of the hydrographic service. The many friends of Capt. Henrich will be pleased to learn of his appointment.

## REPORT OF FREIGHT AND PASSENGER TRAFFIC

TO AND FROM LAKE SUPERIOR FOR THE MONTH OF APRIL, 1898, INCLUDING STATISTICS OF THE UNITED STATES AND CANADIAN CANALS AT SAULT STE. MARIE, MICHIGAN AND ONTARIO

### EAST BOUND.

ITEMS.	US CANAL	CANAD'N CANAL	TOTAL
Copper, net tons.....	3,629	3,468	7,097
Grain, bushels.....	1,972,638	1,046,817	3,019,455
Building Stone, net tons.....			
Flour, barrels.....	111,650	120,600	232,250
Iron ore, net tons.....	160,758	121,556	282,314
Iron, Pig, net tons.....			
Lumber, M. ft. B. M.....	9,278	2,641	11,919
Silver Ore, net tons.....			
Wheat, bushels.....	984,000	926,400	1,910,500
Unclassed Freight, net tons...	6,673	4,107	10,780
Passengers, number.....	9	91	100

### WEST BOUND.

ITEMS.	US CANAL	CANAD'N CANAL	TOTAL
Coal, (hard) net tons.....	1,200	2,400	3,600
Coal, (soft) net tons.....	111,293	84,679	195,972
Flour, barrels.....			
Grain, bushels.....	250		250
Manufactured Iron, net tons..	6,835	4,568	11,403
Salt, barrels.....	2,183	9,973	12,156
Unclassed Freight net tons...	9,832	9,891	19,723
Passengers, number.....	75	197	272

East Bound Freight, net tons.....476,566  
West Bound Freight, net tons.....233,800

Total .....710,366

Total Craft, United States.....436  
Total Craft, Canadian.....420

Total .....856

Total Registered Tonnage, United States.....422,627  
Total Registered Tonnage, Canadian.....313,086

Total .....735,713

## CLASSIFICATION OF VESSELS.

Owners of lake built tonnage have paid less attention to classing their vessels than any other body of men engaged in the business of handling floating property. Under the caption of "Two Old Dominion Liners to be Built," the American Shipbuilder says as follows of the high standard of excellence of the Princess Anne, we neglected to say that this ship was built under the rules of the American Shipmasters' Association as rated in the Record of American and Foreign Shipping, and under the personal supervision of its surveyors: The two new ships are to conform with this Association's requirements in all particulars, and we would here remark that the American Shipmasters' Association is to be congratulated upon the excellence of the proportion of their schedule of scantlings, which certainly produces a ship of unexceptionable excellence, as is so fully shown in our entire fleet of American seagoing vessels. We learn that all the steamships of the Old Dominion Steamship Co., without a single exception, have been built under the rules of the Record of American and Foreign Shipping. Of the many steamship companies' presidents and managers in this country, few, if any, can show the result of more unexceptional judgment than that displayed by the president of the Old Dominion Steamship Co., Capt. Henry A. Bourne, who is recognized as one of the best authorities on design, adaptability and management of steamships, which is so finely carried out in the affairs of the Old Dominion Steamship Co.'s line, over which he so ably presides.



## NEWS AROUND THE LAKES.

## DETROIT.

*Special Correspondence to The Marine Record.*

The little steamer Bessie caught fire around her smoke-stack on Lake Erie a few days ago. The damage done was slight, chiefly her cabins and some of the light upper works.

Leiter wheat comes in very handy for the vesselmen at Chicago. When there is nothing better offering a cargo is to be had at once, and as time is money, Leiter is getting a large amount of his wheat moved at a cheap rate of freight.

The firm of Thatcher & Shirley, of Toledo, have secured contracts for laying a 72-inch pipe across the Rouge river. One of Carlin, Stickney & Cram's tugs will take the scow, pontoons, diving apparatus and other material from Toledo to the Rouge.

Capt. James Reid, of Bay City, has been awarded the contract for releasing the steamer Outhwaite. He is to get \$7,000 and one-third of the appraised value when the vessel is towed to this port, or nothing, in the event of not getting her here. Capt. Reid will always embark in a forlorn hope, anyway.

The city council of Waukegan has granted the Elgin, Joliet & Eastern railway right of way to the proposed harbor slip and docks. The Crough Construction Co., of Chicago, has secured the contract for the excavation and docking of an 800-foot slip. The work will be finished by September 1. A large coal company will locate upon this slip.

During the month of April the dredges working at the Limekiln Crossing removed a large number of boulders. The stage of water at the crossing is nineteen feet, which is two inches better than it was at this time a year ago. The work of removing the boulders in the channel abreast of Amherstburg will be started and the dredges will clear a channel 400 feet wide.

Edward W. Bemis, who, at the request of the United States department of labor, is preparing for the labor bulletin of the department a report upon the beneficial features of American trades unions, has written Secretary Barter, of the International Longshoremen's Union, for full information concerning the union, which is one of the strongest in the country.

A carrier pigeon alighted on the schooner John Scott Russell, in tow of the steamer Henry Cort, in the middle of Lake Huron a few days ago. The pigeon, which was tired out by a long flight, had a ring on one of its legs with the inscription "No. 4619 T." thereon. After being fed by Capt. Holdridge, and resting for awhile, the bird flew away in the direction of this city.

The Detroit & Cleveland Navigation Co. has added another great improvement to their passenger service. In purchasing state-room tickets at the city or dock ticket offices the passengers are now given the key to their rooms, which avoids the delay of exchanging tickets and obtaining the key from purser on the steamer. This feature will no doubt be greatly appreciated by the traveling public.

The wooden steamer Isaac Lincoln was launched on Tuesday afternoon from Anderson's shipyard, Marine City. The Lincoln is owned by A. F. Price, of Fremont, Ohio, and Capt. Egbert, of Port Huron. The dimensions are: Length over all, 144 feet; beam, 30 feet; depth, 9 feet 2 inches. The steamer is equipped with all the latest steam appliances and cost \$40,000. She will engage in the lumber trade, being especially designed for river work in getting to Fremont.

Geo. Y. Wisner, of Detroit, a member of the board of engineers of the Deep Waterways Commission, says the Senate amendment to the clause in the sundry civil appropriation bill providing \$225,000 for a survey of the deep water routes is going to make trouble unless remedied. This amendment, says Mr. Wisner, requires a final report next fall, which is practically impossible, yet, unless the appropriation is made next fall the work must necessarily come to a standstill.

The Lumber Carriers' Association is meeting with more opposition here than at any port on the lakes, because the lumber dealers want a differential of a shilling under the rates to Ohio ports—they do not care how much the rate is so long as they have a shilling better than the Ohio dealers. The association will decide soon whether this will be allowed or not. A majority of the local carriers are firmly of the opinion that it will not be granted, and they believe that the longshoremen will stand by the vessels.

Secretary A. M. Carpenter, of the Lumber Carriers' Association, says he has closely investigated all reports of rate cutting and finds that not a member has cut the rates; that a few days ago the Toledo Longshoremen's union fined the steamer Langell Boys for not being a member of the association; that some of the association boats are being chartered to carry lumber from Green Bay to lower lake ports at association rates, the Jenks Ship Building Co.'s fleet and the steamer Pawnee and consorts being among the charters.

As formerly, Capt. Leo Bernard will operate on St. Mary's river during the season of navigation the following range lights, light ships, etc.: Range lights on St. Joseph's Island, lower end Mud Lake, two bright lights; red light above the canal on float—Vidal shoals; range light on Birch Point, near Round Island—guidance through north channel Waiskai Bay—the channel is over 600 feet wide with from six to ten fathoms of water. Capt. Bernard is also in partnership with Arthur Rains for the maintenance and collecting of the two bright range lights on St. Joseph's Island, leading through the new Encampment channel.

Capt. J. W. Atwood, the manager for the Booth Packing Co., has sold to C. Endress & Sons one of his steam net-raising appliances which will be placed on the new tug C. W. Endress. Capt. Atwood's device has been patented in the United States and Canada, and has been in successful operation on various fishing tugs the past three years, during which time several improvements have been made upon it. It is the only device of the kind which has met all the requirements. By its aid, nets can be lifted in about half the time required to do the work by hand. The appliance is a labor-saver for the fishermen.

"Even if it is war time they ought to keep that boat looking decent," said a well known vesselman as he looked out over the river at the naval reserve drill ship Vantic. "The government keeps eight or ten men on that boat and they ought to be set to work scrubbing her. A Cleveland man came into my office to-day and he said she was a disgrace to the river. Up towards the bow they started to clean her and the spot they scrubbed looks quite decent, but I guess they got tired before they completed the job. The Vantic is a fine old craft, and will be an ornament to the river if she is kept in any kind of shape, but at the present time she is an eyesore."

Col. Lydecker, says the Free Press, is thoroughly displeased with the report sent out from Sault Ste. Marie that he is guarding the great locks against possible injury or destruction by Spanish spies. "It is true that I have had guards watching the canal and locks day and night for some time," said the Colonel on Tuesday, "but I was endeavoring to keep it secret, and had supposed nobody except a few trustworthy people knew anything about it. Now the report has been sent all over the country, and this publication will only serve to call the attention of enemies of the government, who, perhaps, never before thought of it, to the fact that immense damage might be done to the lake commerce and the country in this way. There is not the least truth in the report that dynamite was found in a shed near the locks, nor at any other point."

## CHICAGO.

*Special Correspondence to The Marine Record.*

Grain freight rates last Tuesday were on the basis of 1 1/8 and 1 1/4 cents on corn, dependent on the location of elevators.

The Chicago Ship Building Co. had one of the Wisconsin and Michigan R. R. Co's. car ferries in dock for repairs and calking this week.

The Goodrich Trans. Co.'s steamer Chicago arrived here on her first trip this season on Saturday. She is in excellent condition for the coming season's work.

Capt. J. P. McCarthy has purchased the steam yacht Hinda from F. W. Morgan, owner of the steel steam yacht Pathfinder. The Hinda has received a thorough overhauling, refitting, re-furnishing and a new Roberts' water tube boiler.

The U. S. Customs House at this port has been removed from the U. S. Appraiser's Stores building, Sherman and Harrison streets to the Manhattan building, 4th floor, Nos. 307 to 321 Dearborn St. The U. S. barge office will remain at No. 2 River St., next Rush St. bridge.

T. G. Baldwin, recently first mate on the steamer City of Traverse, has been appointed master of the steamer J. C. Ford, of the Graham & Morton Trans. Co. Mr. Baldwin has done twenty-three years service on the City of Traverse, having served in all capacities on her from watchman to captain. He is a very capable, steady and persevering young man, and his many friends wish him much success on his new appointment.

There have been several changes made recently amongst the masters of the Goodrich Trans. Co. Capt. Wm. Nicholson, of the steamer Atlanta, has resigned and been appointed master of the steamer Wisconsin, of the Crosby Trans. Co., of Milwaukee. Capt. David M. Cochrane has been transferred from the steamer Sheboygan to the steamer Atlanta. Capt. Joseph Munger has been transferred from the steamer Chicago to the steamer Sheboygan and Capt. Chas. T. Bronson, recently sailing master of the U. S. revenue cutter Calumet, has been appointed master of the steamer Chicago.

The steamer Lawrence, of the O'Connor Trans. Co., left here Monday morning for St. Joseph and Benton Harbor on her first trip of the season. She will leave her dock near State bridge on the north side of the river daily at noon except on Saturdays, when she will leave at 11:30 P. M. and will leave Benton Harbor at 9 P. M. and St. Joseph at 10 A. M. daily. The Lawrence has received a thorough overhauling and is fitted up and furnished in first class shape and looks better than ever.

The Graham and Morton Line of side wheel steamers offer for the season of 1898 the finest service ever given by any line out of Chicago. Commencing May 28th a double daily service will be inaugurated between Chicago, St. Joseph and Benton Harbor, giving a choice of three leaving times per day, morning, noon and night. Steamers leave Chicago at 9:30 A. M., 12:30 noon, and 11:30 P. M. The company's steamers have been put in first class condition for the coming season's work.

A fire on Monday morning, which took place at the Star Barrel and Box Co's. storage sheds near Indiana street bridge, caused the Independent Tug Line's floating dry dock, laying in the river alongside the dock, to be badly burned, the engine and boiler house on the dry dock having been partly destroyed. The line's tug C. M. Charnley, which was in the dock, had her pilot house and a part of her cabin nearly destroyed, also the plank shear end rail forward on the starboard side. The tugs Van Schaick, Quinn and Smith were

scorched, but were removed across the river before further damage was done. The tugs were insured. The fire was a hot one while it lasted.

The Lumber Carriers' Association is showing a strength which is almost beyond belief by those who have seen so many combinations of vessel owners to maintain freights formed only to go to pieces. Thus far the lumber carriers have kept their schedule of prices in control of the trade, and the scheme has been successful to that extent. Only one-half of the lumber carrying vessels on Lake Michigan are now in service, owing to the maintenance of the agreement not to accept less than association rates, the owners of the idle craft being content to let them remain so, with the hope of having a trade which will bring some returns when their vessels go into commission.

The Goodrich Trans. Co.'s new steamer Georgia had a trial trip out of Manitowoc last Saturday. She was run down to the south of Sheboygan at a slow gait. On the way back her engine was given a good trial test and the Georgia made the run from off Sheboygan light to Manitowoc light (a distance of 23 1/2 miles) in one hour 44 minutes, or 13 1/2 miles an hour. The engine ran very smoothly indeed with very little vibration to the steamer. It was started on 92 revolutions and raised gradually to 102 revolutions just before checking down at the end of the trip. All the officials of the company were on board and were delighted with the trial, which was most satisfactory and without a hitch of any kind. The Georgia has been fitted and furnished with regard not only to the comfort and convenience of the passengers, but also to each one of her officers and crew. The engine room is open to the roof of the top deck and her firehold the same, giving perfect ventilation and lots of light. She is also provided with a very handsome fire pump, manufactured by the American Fire Engine Co., which will throw 9,000 gallons of water per minute. Her dimensions are 206 feet over all, 192 feet keel, 34 feet beam inside of bulwarks, 29 feet 8 inches breadth of hull, 12 feet 8 inches molded depth, 12 feet depth of hold. Engine fore and aft compound with cylinders 21 and 44 inches by 36 inches stroke. Marine boiler 11 feet diameter by 14 feet long allowed 120 lbs. steam pressure. She is to arrive in Chicago about June 1st and will be placed on the route between Chicago and Manistique, leaving Chicago every Saturday night at 8 o'clock. Capt. Edward Carns is in command, Joseph Webber, chief engineer, W. J. Reardon, steward, J. W. Keith, purser. The Georgia was built by H. B. & G. B. Burger, Manitowoc, who have built a number of steamers for the Goodrich Trans. Co.

## BUFFALO.

*Special Correspondence to The Marine Record.*

The big wheat cargo of the steamer Australia over-ran 15 bushels.

The new tug Marion, built for Hickler Bros., of Sault Ste. Marie, has left for the "Soo."

Martin J. Haberer was sworn in this week as master of the North Star, to succeed Capt. William Thorne.

The steamer Samoa was towed into this port for repairs from Point Abino Saturday. Her stern bearings became disabled in the Welland canal.

Capt. Joseph Frawley has succeeded Capt. David Carrier as master of the Cormorant. Capt. Frawley was on the Jewett of the Western Transit Co., last season.

One remarkable feature of the grain business here this season lies in the fact that the city elevator has handled over fifty per cent. of the cargoes brought down since navigation opened.

Edward F. Gaskin, superintendent of the Union Dry Dock Co., and William Murphy made a survey of the tug Thomas F. Madden, which was damaged by fire at the Genesee street canal bridge last week.

The first clearance of the season over the Erie canal from New York occurred Wednesday. The steam canal boat Gamma, with five consorts, was cleared Wednesday for Cleveland, by the Cleveland Steam Canal Boat Co.

The new Maytham line tug, Charles F. Dunbar is pronounced by everyone who sees her as the peer of any tug on the lakes. She has power enough to walk away with the slack of an Island, but few tugs are given triple-expansion engines.

The firm of Russell & Watson, of this city, will supply the signal lamps for the two revenue cutters building by the Globe Iron Works Co., Cleveland. The old established Main Street firm are always to the fore in the outfit for first class tonnage.

Last Thursday the canal steamer Massasagua ran out of coal and was drifting with her barges stringing out behind her. The Erie liner Ramapo happened along and towed her into port. The canal boats were bound from Erie, Pa., to New York, via the Erie canal.

"It is easy enough to evade the association rates," said a vesselman this week. "All that is necessary is to have an understanding between shipper and carrier just what freight will be paid, and the bills of lading can be made out at any rate desired. I don't know that this has been done this season, but it was a plan pursued by certain shippers and vesselmen a few years ago, and would work as well now as then, providing the mutual agreement was fully understood and lived up to."

Gov. Black has just signed a bill appropriating \$30,000 for the basin. This insures a channel of twenty feet in depth, which will lead to the Raymond elevator and give that house as much water as required. The dredging of this portion of Buffalo harbor is due in a large part to the efforts of Capt.



J. S. Dunham, president of the Lake Carrier's Association, and A. A. Parker, of Detroit, who used their best efforts in the interest of the movement. An appropriation of \$1,000 has also been secured, which will be used in dredging outside of the north end of the basin breakwater, so that vessels will have good water from the Reading docks.

The most valuable cargo of grain ever brought to the port of Buffalo was carried to the Northern elevator last week by the Cleveland-owned steel barge Australia. The opportunity to break the record was given by the high price of wheat, the Australia herself having brought down a larger cargo earlier in the season. She loaded 210,539 bushels of wheat, valued at \$1.30 a bushel, or \$273,700. Another record-breaking cargo, so far as value is concerned, was that of the steamer Mohawk, from Lake Superior. In addition to a large quantity of miscellaneous freight the Mohawk brought down copper worth \$300,000. Her entire cargo is estimated to be worth a half-million of dollars.

The impression seems to have gained ground that coal was not being shipped out of this port as lively as in former years. For the first six days of May, 1896, the total amount of coal shipped was 59,895 tons; for the same period in 1897, 32,700 tons; in 1898, 52,047 tons, by reference to the custom house report. There has been a steady and rapid increase in the size of cargoes. In 1896 the largest cargo taken out previous to May 6th was 2,900 tons. In 1897 this record was raised to 3,500 tons; and again this season it has been still higher, one vessel loading 4,000 tons. Present indications are that the coal shipments of 1898, for the entire season, will compare favorably with those of previous years, if they do not surpass them.

A dispatch from Halifax, N. S., says: "The American steamyacht Inquirer, from Buffalo, came into port here to replenish her water supply and her coal bunkers. The Inquirer is en route to New York, coming through the Great Lakes to Montreal, thence around the Gulf coast to this port. Shortly after her arrival the yacht's commander, Capt. Lyons, received a telegram from her owner, W. J. Connors of Buffalo, to hasten with all speed to New York. It was stated that the Inquirer on her arrival at New York would be fitted out as a naval dispatch boat and would be immediately put in commission. She will proceed at once. A report was current that a Spanish gunboat was sighted off the Newfoundland coast, but Capt. Lyons' craft has a speed of 23 knots and he is not afraid of warlike vessels." Capt. Steve Lyons, master of the Inquirer, is a Cleveland man. Last year he sailed the steamer Clyde and several seasons ago he was master of one of the Menominee steamers.

#### CLEVELAND.

*Special Correspondence to The Marine Record.*

The Pioneer docks to-day in the Cleveland dry dock for a new wheel.

The steamer Globe, at Ashtabula, this week, brought down the largest cargo she ever carried. She loaded at Gladstone.

The steamer Presque Isle will be the next boat to be launched from the Cleveland Ship Building Co.'s new yard at Lorain.

Receipts of lumber are increasing at this port. A number of tows, some of them from the head of Lake Superior, arrived during the week.

The steamer V. H. Ketcham has completed repairs at the Ship Owners' dry dock, and the Empire, as well as the Badger State, are being thoroughly overhauled.

A carrier pigeon alighted on the steamer Robert L. Fryer, off Ashtabula, on Monday last, and was caught by the crew. On its left leg was a band with the letter K and No. 3161.

The large steel steamer Superior City recently launched from the Lorain yards of the Cleveland Ship Building Co., will be ready for service in about ten days. She has been given three spars.

Capt. Angus McDougall, of Buffalo, and Capt. Daniel McLeod, of Cleveland, made the survey on the burned steamer Maine. She first caught on fire, then sunk at her dock in Tonawanda.

The new Wilson line schooner David Z. Norton, recently launched from the yards of the Globe Iron Works Co., started this week on her maiden trip to Lake Superior. Capt. James Higgins is her master.

A boat was picked up on Lake Erie, off Monroe, by the steamer City of Alpena, on Monday. The boat, twenty-five feet long and well fitted, was found seven miles off shore. There is nothing to indicate the owners or its last occupants, if any.

The Flint & Pere Marquette Railroad Co. has appointed Robert Bruce, formerly chief engineer under Supt. Martin, as the successor to Capt. Hawgood, of Cleveland, recently resigned as superintendent of the Flint & Pere Marquette line of boats.

Mr. H. M. Hanna's steam yacht Comanche is being fitted out at the yard of the Globe Iron Works Co. and will leave for the coast in a day or two. Charles Rice, of this city, who was engineer on the steamer Globe, will have charge of her machinery.

A strong effort is being made to get better lights at Grosse Point. Capt. George P. McKay, chairman of the Lake Carriers' committee on aids to navigation, has represented to the officials at Washington that the present lights are unsatisfactory.

The steamer John F. Eddy is managed this year by W. C. Richardson, and will tow as her regular consort the schooner Charles Foster, which he also manages. The Eddy has been

thoroughly overhauled and put into first-class condition at the Detroit dry dock.

A new scheme in the transmission of mails to lighthouses on islands and reefs is to be tried this summer. Hereafter the keeper of the West Sister Island light will receive mail matter in sealed packages, which will be thrown overboard from the steamer State of New York and be picked up by men in small boats. The steamer will signal when she has any letters for the light-keeper, who can then put off in his skiff and pick up his mail without having the steamer slow down or stop.

T. F. Newman, general manager of the Cleveland and Buffalo Transit Co. on his return from Detroit, says that work on the City of Erie is being rushed as fast as possible and that she will be completed and ready to go on the Buffalo route June 10. During June, July and August the steamers City of Buffalo and City of Erie will make tri-weekly trips between Erie and Buffalo. The steamer State of Ohio, which has been chartered by the Connors Transportation Co., of Chicago, for the season, will go to Lake Michigan the latter part of the month, and the steamer City of the Straits will go on the Buffalo route until the City of Erie comes out.

The lumber carriers of the Great Lakes have not been making much money for a number of seasons past, and each succeeding season, they say, has left a smaller balance on the right side of the ledger. At the beginning of the present season a number of the carriers got together and formed a union and established a minimum rate for carrying lumber, and this rate the carriers claim will only furnish a bare living. One after another the carriers came into the new union, until at the present time the number of carriers outside the union is a fraction of the whole. The men who directed the affairs of the new union made an alliance with the International Longshoremen's Association, the men who unload the vessels, and by this move insured the success of the movement if the carriers stick together themselves. The longshoremen agreed to fine any vessel not a member of the association, that is, charge them an extra price for unloading, and the carriers agreed on their part to give longshoremen the preference at ports where they were weak, and also agreed to a slight increase in the price of unloading the lumber. So far, everything has gone in favor of the lumber carriers, although there is some little friction regarding a differential in freight rates between Detroit river and Lake Erie ports, but that is likely to be settled in a few days. Chicago is also holding out for a better schedule of freight rates on lumber.

#### FLOTSAM, JETSAM AND LAGAN.

The Bertram shipyard, Toronto, has secured the contract for a steamer to replace the Rosedale. The new vessel is to be 255 feet long and 43 feet beam.

The Milwaukee harbor of refuge is being extended, and 25 men have been put to work constructing new cribs. Knapp & Gillen, of Racine, have the contract.

E. A. Cannon, overseer of the government dredges, says that as soon as the weather becomes settled and will permit the removal of the plant from Kewaunee, it will be taken to Sturgeon Bay and work begun on the harbor at that place.

Miss Fay Fuller, who has just been appointed harbor mistress of Tacoma, is the only woman in the world holding such a place. She became prominent in the West a number of years ago by being the first woman to ascend Mt. Tacoma. —Ex.

Capt. Charles Thompson, who lost his position last week as master of F. & P. M. steamer No. 3, has been reinstated. He has been placed in temporary charge of the No. 2. A petition signed by several hundred patrons of the road was sent to the manager requesting the reappointment of Capt. Thompson.

The Carnegie Steel Co., will deliver a large lot of steel rails in Duluth this season. The steamer Hesper will deliver the first cargo. It is said that the Carnegie shipments to the head of the lakes will amount to 50,000 tons, of which amount 25,000 tons or more will be for the Great Northern Railway Co.

As usual Canadian canals will not be open on Sunday. The Canadian Marine Association made a strong effort this spring to induce their government to adopt a more liberal policy with regard to opening the canals on Sunday, but the government has refused to make any concessions regarding Sunday traffic on the canals.

James Pricer, of Houghton, has contracted with the Calumet & Hecla Mining Co. for nearly a season's dredging on Torch Lake Canal. Owing to low water the canal has but 14 feet of water. This will be made deeper. Sixteen feet will be obtained, after which work on the 20-foot channel will be begun for the entire canal.

There is great activity in grain shipments, but the rate is such that only the larger class of boats can pay expenses, 1 1/4 cents being offered on corn to Buffalo from Lake Michigan points. The shipments of cereals during April was the greatest in history, and May promises to be still better. Only for this a great many craft would not be fitted out yet.

The Northern Grain Company has made a proposition to erect a grain elevator with a capacity of 1,000,000 bushels just east of the Chicago & North-Western railway depot at Manitowoc provided the city will agree to vacate the ends of Twelfth and Thirteenth streets. Of course the proposition will be accepted. The new elevator is to be 400 feet long and 100 feet wide.

The Engineer, of London, says there are 3,000 Swedish sailors forming part of the complement of the United States

naval vessels. The Engineer should know better than to print such nonsense. There are not that number of Swedish sailors in the whole United States.—American Shipbuilder. Our New York contemporary is away off. Chicago and 'Frisco could easily furnish the quota.

A grain elevator with a capacity of 1,500,000 bushels has recently been completed at Manchester, England, by a Chicago contractor. The machinery and all the iron work in this building were produced in Chicago. The United States also furnished the pine and the heavy timber used in the building, all the skilled laborers, foremen and superintendents were Americans. The building, which is the largest elevator in England, was completed in four months from the time the foundations were finished. The equipment includes complete and modern loading and unloading devices and conveyors. It is estimated that the appliances in use will permit the unloading of grain from vessels at the rate of 12,000 bushels an hour.

#### TREASURY DECISION RELATING TO CLEARANCE OF VESSELS.

TREASURY DEPARTMENT, April 27, 1898.

*To collectors of customs and others:*

Your attention is directed to the following act of Congress, approved April 25, 1898, entitled "An Act declaring that war exists between the United States of America and the Kingdom of Spain."

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, First, That war be, and the same is hereby, declared to exist, and that war has existed since the twenty-first day of April, anno Domini eighteen hundred and ninety-eight, including said day, between the United States of America and the Kingdom of Spain.

Second. That the President of the United States be, and he hereby is, directed and empowered to use the entire land and naval forces of the United States, and to call into the actual service of the United States the militia of the several States, to such extent as may be necessary to carry this Act into effect.

The following instructions are issued for your guidance:

1. Clearance will be refused to any vessel for a port or place blockaded by the United States. (The President, on April 25, proclaimed a blockade of the north coast of Cuba, including ports on said coast between Cardenas and Bahia Honda and the port of Cienfuegos on the south coast of Cuba.)

2. Clearance will be refused to any vessel, carrying goods which are contraband of war, for any Spanish port.

3. Clearance will be refused to any vessel carrying coal for any Spanish port.

4. Clearance will be refused to any American vessel for any Spanish port.

5. Up to and including May 21, 1898, clearance will be granted to any Spanish merchant vessel now in any port or place of the United States for any foreign port, except a port blockaded by the United States, provided that such vessel shall not have on board any officer in the military or naval service of Spain, or any coal (except such as may be necessary for the voyage), or any other article prohibited or contraband of war, or any dispatch of or to the Spanish government. Collectors will issue a certificate to any such vessel on clearance, reciting that said vessel has complied with the provisions of the proclamation of the President of the United States, signed April 26, 1898, and by virtue of that proclamation is entitled to continue her voyage if met at sea by any United States ship, except to a blockaded port. To the certificate shall be attached a copy of the proclamation aforesaid.

Clearance in ballast will be granted to any Spanish merchant vessel which, prior to April 21, 1898, shall have sailed from any foreign port bound for any port or place in the United States, as soon as her cargo is discharged, for any foreign port, except a port blockaded by the United States, provided such vessel shall not have on board any officer in the military or naval service of Spain or any dispatch of or to the Spanish government. Collectors will issue a certificate to any such vessel on clearance, reciting that said vessel has complied with the provisions of the proclamation of the President of the United States, signed April 26, 1898, and by virtue of that proclamation is entitled to continue on her voyage if met at sea by a United States ship, except to a blockaded port. To the certificate shall be attached a copy of the proclamation aforesaid.

6. Clearance will be granted to any American or neutral vessel destined for a neutral port with a cargo also destined for a neutral port, without regard to kind of cargo, on compliance with the provisions of law.

Where officers of customs have reasons to believe that coal or articles considered contraband of war are destined for the use of enemies of the United States, clearance will be withheld until a report has been forwarded to, and instructions issued by, the department.

7. Clearance will be issued in all other cases in compliance with the provisions of law.

8. Collectors in doubt in any particular application for clearance will telegraph promptly the facts to the department and withhold clearance until instructed.

9. The department declines to give general advice to masters and owners of vessels, shippers, consignees, etc. Any specific case requiring action by the department must be submitted by those concerned to the proper officer of the customs, who, if in doubt, will communicate with the department and await instructions before taking action.

O. L. SPAULDING, Acting Secretary.



## UNIFICATION OF TIME AT SEA.

Capt. W. N. Greenwood, F. R. Met. Soc., etc., read a paper last week at Lancaster, England, on the above subject. The lecturer said that at the close of the nineteenth century the consideration of time would be thought to offer no interesting point, yet within the question of unification of time lurks the germ of propositions more practical and far-reaching than we may at first be inclined to admit. For that remote antiquity when the only known or requisite divisions of time were those of the natural day apportioned into suitable periods and regulated by the rising, southing and setting of the sun; by the consumption of oil in a lamp, by the running of fine sand from out of one vessel into another, or by water as in the Clepsydra, and the natural night, from sunset to sunrise, divided into three or four watches, or change of guard for the whole period of darkness—the divisions of the day and the watches of the night varying in length in both cases with the seasons of the year—to the time when the Egyptian astronomer watched the stars in their passage over his meridian from the depths of the great Pyramid and the guard or sentry stationed at the four corners of the structure called fourth the hours of divisions of time as they were recorded by the astronomer stationed within. The Chaldeans living on the shores of the Persian Gulf and the banks of the river Euphrates where with the Phoenicians amongst our earliest navigators, and a study of the stars no doubt helped them in that direction, for Herodotus tells us that the Phoenicians circumnavigated Africa, guiding their ships at night by the stars. The Chaldeans divided the year into two kinds—one the lunar year for ordinary purposes and a movable solar year for astronomical uses.

Time and distance have been reduced to a low level by steam, electricity, telegraph, and telephone. If this is so, does it not seem natural that unanimity in the method of recording the action as to time, should be referred to a common standard? As the united acts, though severed, are synchronous, the record in time as a witness should be synchronised, too. The movement for unification of time is not new. Under various forms it has been brought before the public at irregular intervals any time within the last thirty years, but not being of general interest has only received passing attention. The incongruity which the movement proposes to rectify has affected the navigator, however, more or less ever since John Flamsted was appointed Astronomer Royal and the Royal Observatory instituted solely and wholly in the interest of navigators in 1676. In the warrant of Charles II. for payment of his salary, £100 per year, Flamsted is cited as "our astronomical observer," and he is directed forthwith to apply himself with the most exact care and diligence to the rectifying the tables of the motions of the heavens and the places of the fixed stars so as to find out the so much desired longitude of places for the perfection of the art of navigation. John Harrison perfected his ocean chronometer, for which he received a prize of £20,000, also in the interest of navigation, in 1867. Until this latter period navigation was more or less of an art. With the perfection of his chronometer it became a science, for by his invention he made it possible for the navigator to carry with him the correct Greenwich mean time on his journeyings all over the world; and as time—absolutely correct time—is the principal element in the daily life of the seaman, we may consider that from his day forward the whole art and science of navigation underwent a change. Time to the general public is not a matter of paramount interest except in the economy of its uses. It is sufficient if public and private clocks and watches are kept as near as may be in accordance with what is now known as Greenwich or railway time. With the true significance of these two times—which are practically one and the same—how many are thoroughly conversant? Having imperceptibly received the change made some thirty years ago, when Greenwich mean time was made the time over our island, the nation accepted the change to our lasting benefit. This was a first step in unification of time. The regulation of our public time is an astronomical and delicate problem, regulated and controlled from our national Observatory at Greenwich. Astronomically, any specified date of the month commences with the passing of the mean sun over the meridian of Greenwich, and ends twenty-four hours afterwards, when the said mean sun is supposed to again cross the meridian.

Not so the civil date. It is always understood as commencing at midnight. From this it will be seen that the civil day is 12 hours old, or half over, when the astronomical day commences, and as each day is supposed to contain 24 hours it necessarily follows that 36 hours are required to complete any specified date when both days have to be considered

together. Further than this, commercially we have another day also of 24 hours, known as the nautical day, which has nothing in common with the astronomical day, excepting the noon, as it ends when the astronomical day commences, and it only coincides with half of the civil date, for it ends when the civil day is 12 hours old. From this it may be gathered that 48 hours are comprised in any one specified date, when all three days are considered together. Fifty years ago Sir John Herschel, in his "Outline of Astronomy," advocated the change we are discussing, and, referring to the astronomical day, wrote: "This usage has its advantages and disadvantages, but the latter seem to predominate, and it would be well if, in consequence, it could be broken through, and the civil reckoning substituted. Uniformity in nomenclature and modes of reckoning in all matters relating to time, place, weight, measure, etc., is of such vast and paramount importance in every relation of life as to outweigh every consideration of technical convenience and custom." Sir John referred to the civil and the astronomical, but we must add a third, namely, the nautical day. This renowned astronomer had in his mind the difficulty and confusion that arose when determining the longitude. The latitude and longitude of a place on the land is found by the working out of several different astronomical problems, but it becomes a slightly different matter when a ship's position on the ocean is required. The latitude of such a position is easily found, but the longitude requires a little more calculating. The difference of time at a given moment between the local time at ship and the corresponding time on the first or some other known meridian is necessary. The difference between these two times is the longitude in time of the ship. The elements in the Nautical Almanac are worked out for the astronomical day, a day and date differing by 12 hours from the civil day, which causes confusion. To simplify the calculation and to remove the necessity for employing an arbitrary correction to every observation that is made for determining longitude this movement was originated. With the United States and Canadian trans-continental railways so many as 75 different times were in public use between New York and San Francisco.

In 1876 a movement to reform the time reckoning took its origin in Canada. The Marquis of Lorne, then Governor-General of Canada, had the matter brought to the notice of the Imperial Government in July, 1879, and again in May, 1880, and through the Imperial Government the attention of foreign powers and scientific societies in all Europe was awakened to it. The President of the United States, General C. A. Arthur, invited representatives from 25 of the principal nations of Europe and America to meet in Washington and discuss the practical utility of the proposed time reform. The Congress met in 1884 and passed several resolutions. The sixth resolution was carried unanimously, yet to this day remains the only resolution of that Congress that has not been wholly or partially adopted. The resolution is as follows: "That the conference expresses the hope that as soon as may be practicable, the astronomical and nautical days will be arranged everywhere to begin at mean midnight." Commodore Franklin, one of the members, and head of the United States Naval Observatory, said, "that he believed to all navigators, certainly to English-speaking ones, the new method which had received the attention of the Washington conference would prove to be decidedly advantageous, as it would remove, on the part of the mariners, the liability to confusion in the conversion of time due to the nautical day preceding the astronomical day by 24 hours and the civil by 12 hours; that the navigator is concerned not with the longitude but with the Greenwich time." The practical outcome of this conference has been the establishment of time zones, and this hour zone system has been adapted for ordinary use in portions of three continents, Asia, Europe and America. The result of appeals to leading astronomers and scientific men throughout the world as to the advisability of the desired change was most satisfactory; 18 countries were favorable and four were not. An appeal was also made to shipmasters, and the opinion in favor of the change was almost unanimous. The Chambers of Commerce were approached, and where interested, were favorable. Yeas represented about 85 per cent. of the world's marine. Examining the replies of the nine nations publishing ephemerides, we find for the movement 15,720 ships, 15,717,321 tons, and against it 4,959 ships, 4,457,242 tons. Great stress has frequently been placed upon the negative vote of the German astronomers, and yet we have such names as Dr. Max Wolff and Professor Dr. C. Borgen given in the majority vote. The German interest represents only 5¼ per cent.

of the ships and barely 8 per cent. of the shipping tonnage.

After all, it may be asked, is there any just reason why the question of the change in time should be decided by the vote of the astronomers of any one or more nations being in a majority against it, whilst those of the other countries concerned are equally strong in its favor? The only arguments urged against the adoption of unification of time worthy of a moment's consideration are the convenience of the astronomer and computer, and the confusion that for a time might prevail at sea. Our own astronomer Royal has answered the first part of the objection by adopting the change years ago at the Royal Observatory, Greenwich. The second part of the objection has been answered by the shipmasters themselves. To the former it means beginning his date from midnight in place of noon; to the latter it implies doing away with constant changing of the date in every calculation he makes to ascertain his position. The unanimity of the verdict in favor of the adoption of the sixth resolution is most striking. The cause is surely not hopeless that is supported by the unanimous affirmative of over six hundred representative British and foreign shipmasters in active employment, a shipmasters' society numbering 1,000 members, Lloyd's, the Chamber of Shipping, the Royal Colonial Institute, the American Society of Civil Engineers, the American Meteorological Society, the Canadian Institute, the Astronomical and Physical Society of Toronto, the Manchester Geographical Society, and the various Chambers of Commerce wholly or in part. So late as June, 1897, we find the board of directors of the Society of American Engineers adopting a resolution advising the United States government to take steps to adopt this same sixth resolution of the Council of Washington.

To controvert arguments against the adoption of civil time for all uses could be brought countless evidences from such men as Cleveland, Abbe, Adams, Buckhalter, Carpmeal, Cormstock, Capt. Abney, Garrett, Hadden, Sims, Swift, Trownelot, Johnstone, De Wolf, and many more. I choose to stand as the representative of the 600 and odd British and foreign shipmasters who have expressed an opinion that the change in the time asked for should be made; men who, having little or no voice that governs—for they have no parliamentary vote—yet are the one great factor in the prosperity which makes Great Britain the leading maritime nation of to-day; men without which it is impossible for us as a nation to exist, but who, taken as a quantity, are without direct representation, and are safeguarded only by legislation in the 150 Acts of Parliament which apply to them personally, not as safeguarding their interests, but as fines and forfeitures ranging from 10s. to £500 for or against their real or supposed misdeeds. And these are the men for whom a king, stamping his foot upon the floor, swore by his Maker that, come what may, it must be done—"I will have it done," and straightway signed the warrant for the establishment of our Royal Observatory in the interest of the navigator solely. The men who to-day are asking in vain for the change—rather should we say the reconciliation—of the astronomical and civil date in the ephemeris established for their special use, and who in their request are outvoted—for albeit the official astronomers have not so decided—by the amateur and the non-official astronomer, whose very existence was never contemplated by the Royal founder of our national observatory, from which sprang into existence the book of books to the navigator, our national "Nautical Almanac," or—and mark the "or"—Astronomical Ephemeris.

THE decision of Lloyd's Committee to send a surveyor to America, whose duty it will be to test all ship plates proposed to be exported to Britain from the States, has been received with satisfaction by steelmakers, as the American producers will require to roll a superior plate to stand Lloyd's test, which, of course, means more cost and a corresponding obstacle to successful American competition in this country. The plates recently landed from the States were for a steamer not intended to rank at Lloyd's.—Engineers' Gazette, London.

MINERAL wool is manufactured by converting blast furnace slag, while melted, into a fibrous state. In this change the material increases in bulk twelve times, which shows that the original slag has enmeshed a quantity of air equal to eleven times its own bulk. It is this which makes mineral wool the most perfect non-conductor of heat and cold known. No other substance approaches it in the union of these qualities with high air-content. An analysis of mineral wool shows it to be a silicate of magnesia, lime, soda, alumina and potash.



## MARITIME LAW.

## THE MEXICO.

IN RE COMPANIA TRANSATLANTICA.

(Circuit Court of Appeals. Second Circuit, January 7, 1898.)

**COLLISIONS—PRESUMPTIONS—CARGO INSURERS—LIMITATION OF LIABILITY.**—The rule that where fault on the part of one vessel, sufficient to account for the collision, is established, the burden is then on her to clearly show fault on the part of the other, applies as against underwriters of the cargo of the vessel so in fault; and it makes no difference that the other vessel has sought the benefit of the statutes for limitation of liability.

**SAME—STEAMERS AT SEA.**—The fact that one of the two colliding steamers had the reversing gear of her engine clamped fast to the rock arm, so that from one to five minutes was required to release it after notice to reverse, held, a gross fault, rendering her liable.

**SAME.**—When two steamers approached each other on the open sea at night, held, on the evidence, that the one having the other on her starboard bow, after crossing the bow of the privileged vessel, so as to have her green light constantly in view, began porting and continued to do so until she struck the latter on the starboard side, and was consequently in fault; and held, further, that the privileged vessel was not in fault for not reducing her speed, or for starboarding so as to reduce the angle of collision. 78 Fed. 653, affirmed.

Appeal from the District Court of the United States for the Southern District of New York.

Petition for limitation of liability.

This proceeding was instituted by the petitioner in the District Court, Southern District of New York, in consequence of a collision which occurred between the steamer Mexico and the steamer Nansemond, December 21, 1895. The Nansemond, as a result of the collision, sank, with her cargo, and all became a total loss. The Mexico sustained no damage. In May, 1896, libels were filed by the owners of the Nansemond, and by the underwriters of a portion of her cargo, against the Mexico, in the Southern District of New York, and thereafter petitioner filed its petition for limitation of liability.

Before Wallace, Lacombe and Shipman, Circuit Judges.

Lacombe, Circuit Judge (after stating facts). It may be quite sufficient in this case to affirm upon the opinion of the district judge. Indeed, when the record is examined—especially the testimony given by the only survivors from the deck of the Nansemond—it is difficult to understand upon what theory the decision of the district court could be reversed. The Nansemond, aside from any faulty navigation, was concededly in fault because her reversing gear had been made fast by a clamp to the rock arm, which would require from one to five minutes to release after notice to reverse. Counsel for the Nansemond concedes that, when the vessels came in sight of each other, she had the Mexico on her starboard bow. She was therefore the burdened vessel, conceding her own fault in the matter of the reversing gear; and the burden was upon her to show some fault on the part of the privileged vessel, if the latter is to be made to share the loss. "Where fault on the part of one vessel is established by uncontradicted testimony, and such fault is itself sufficient to account for the disaster, it is not enough for such vessel to raise a doubt with regard to the management of the other vessel. There is some presumption, at least, adverse to its claim, and any reasonable doubt with regard to the propriety of the conduct of such other vessel should be resolved in its favor."

The story of the Mexico is that the masthead and green lights of the Nansemond were sighted on the port bow of the Mexico, and that they narrowed on the port bow and drew across until they were on the starboard bow; that the Nansemond had a-ported her wheel suddenly, closing in her green light and exposing her red light, which seemed to be near by, whereupon the Mexico ordered her helm hard a-starboard, to ease the blow. The navigation thus attributed to the Nansemond is indeed extraordinary. Having crossed the Mexico's bows, and thus brought the latter's green light into view of those on the Nansemond, she is charged, not only with porting to such light, but with following the movement of the wheel with a hard a-port; thus swinging around from a position of safety on the Mexico's starboard bow till she came back on the course of the Mexico, striking her on the starboard side, and at right angles to such course. The angle of collision was reduced from 90° to 45° by the starboarding of the Mexico "to ease the blow." However extraordinary this story, it is fully corroborated by the evidence of the two survivors from the deck of the Nansemond. There is in the narrative given by those on the deck of the latter vessel the usual discrepancies as to distance, time, the bearing of lights, etc., but all agree in the statement that she made no change of course until in the jaws of collision. All the testimony, without a single exception, shows that, when sighted, the Nansemond must have been in such a position

as to indicate positively to those on the Mexico that the latter was the privileged vessel, under the starboard-hand rule; and we are not to assume that they at once undertook to get out of the way of the burdened vessel, instead of keeping their own course, without some evidence to indicate that such was the fact. In view of the testimony from the Mexico, corroborated by the direct and positive evidence of Landeborg, the Nansemond's pilot, and of Hellburg, her boatswain, that the Mexico did not change her course, down to the collision, the charge that the Mexico improperly starboarded her helm is not sustained by proof; and under the decision of the Supreme Court in *The Britania* and *The Beaconsfield*, 153 U. S. 130, 14 Sup. Ct. 795, it certainly cannot be held to be a fault that she did not reduce her speed or stop. No other faults are charged against her, and we therefore concur with the conclusion of the district judge, that the Nansemond was solely in fault. The decree of the district court is affirmed, with costs.

## SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset by reversing the east bearings given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting:

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.		
Sunrise.	Bearing.	Bearing.
May 11.....	E. 23° N.	E. N. E.
May 15.....	E. 26° N.	N. E. by E. ¾ E.
LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.		
Sunrise.	Bearing.	Bearing.
May 11.....	E. 25° N.	N. E. by E. ¾ E.
May 15.....	E. 26° N.	N. E. by E. ¾ E.
N. END LAKES HURON AND MICHIGAN, LAT. 46° N.		
Sunrise.	Bearing.	Bearing.
May 11.....	E. 25° N.	N. E. by E. ¾ E.
May 15.....	E. 27° N.	N. E. by E. ¾ E.
LAKE SUPERIOR, LAT. 48° N.		
Sunrise.	Bearing.	Bearing.
May 11.....	E. 27° N.	N. E. by E. ¾ E.
May 15.....	E. 27° N.	N. E. by E. ¾ E.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied, will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

## EASTERN FREIGHT REPORT.

Messrs. Funch, Edye & Co., New York, report the eastern freight market as follows: Grain freights by steam to Cork f. o. reached top of high water mark the latter part of last week, since when the overwhelming number of boats offering on the market has produced a decline of from 3d. @ 6d. per quarter. May boats being closed quite freely at 4s. 6d., June boats at 4s. 1½d., and the enquiry light for that and later months. The suspension of French duties on wheat has created intense excitement in our market, and, whilst driving up the price of wheat to extreme figures, has enabled the great manipulators in Chicago to dispose of large blocks of their holdings—a good deal of which was covered by charter in the early part of the week. As the suspension of the French duty ends on July 1st, May shipment is urgent, after which time other importing centres will doubtless again come to the fore. Prompt large boats to picked ports can be placed at from 4s. 1½d. @ 4s. 3d., for June and later months at from 3s. 9d. @ 3s. 10½d., or for heavy and light grain at 3s. 9d. and 3s. 4½d. respectively. Other trades continue inactive, although the decline in grain rates is likely soon again to lead to business in various other directions.

Business for sailing vessels has been more satisfactory during the past week than for a long time. The number of fixtures has not been so very great, but rates in southern directions have improved materially, and there is still a fair demand for neutral vessels to South America. The list of charters shows rates which have not been reached for many a year, but, of course, the continuation of same will hinge upon the duration of hostilities. In other lines there is nothing of particular interest to report, but the general tone of the market is very firm.

## THE AMERICAN BLUEJACKET.

(Liverpool Journal of Commerce).

As is well known throughout the United States, the native born American lacks in a marked degree that almost irresistible longing for a sea life, which is more or less common to youths of these islands. As the foreign carrying trade of the United States does not admit of any great difference in the rates of wages for deep-water voyage than obtain on British and other ships, the lads are certainly not wiled away from the charms of the American cities, which they learn to appreciate only too soon, generally speaking. The history of the States does not abound in the soul-stirring narratives to be found in the history of Great Britain, and there are no Drake, Cook, or Nelson, histories connected with the New World to inspire the young men with a longing to follow the example of such heroes. The tales instilled into the young mind are those more associated with land battles, the one shining star of Washington being kept ever before them, and while the young people are ready enough, and even anxious to be trained in the military academies ashore, they seldom enough evince any predilection for the sea. However, it is only fair to the American nation to say that those who do settle upon a roving career are creditable to themselves and their country, and show an aptitude to learn the ways of a seaman's life, and the duties of a calling that few, perhaps none else, exceed. In the great inland lakes the sailors of American birth are men who run for years in the same crafts, and work as the American in all walks of life does work, whole-heartedly, taking advantage of every moment to make things go. It is, however, a small percentage of the true Americans who take to salt water, and it may almost be said that the bulk of those who do very soon constitute the "after-guards" of ships flying the stars and stripes. The national go-aheadness of the American gains for him on board ship—as an officer—a rather unenviable reputation, for they, in their keenness to have things as spick and span as is possible on merchant ships, considering the number of hands carried and the conditions obtaining, "run" the crew in a way that would not be possible on a British ship. It is here that the foreigner comes in, for the "Dago" being of a pliable turn of mind, and ready to jump at the call of the energetic and exacting Yankee, is enlisted whenever he can be got, and often enough treated with scant courtesy. It is, however, notoriously and exceptionally smart men and good seamen are treated better in this class of ship than on an easy-going British ship. It was, and we may say is, no uncommon thing to see a youth taken on board an American ship, housed aft, trained to become an officer, and within a couple or three or perhaps four years acting in that capacity. As American boys aspire to higher things on shipboard than the wearing of dungaree, the United States does not naturally possess a fleet manned by natives, so that the seamen must be gathered together from various quarters, and if other countries produce the trained article ready to accept service under the American flag, then we must expect to find comparatively small proportion of American bluejackets. It is here that there seems little chance of improvement, so far as the United States Navy is concerned, and while there may be differences in the conditions obtaining in the warships of that country compared with what is to be found in other navies, there seems little fear that the spirit which rules in the merchant service will also operate in the Navy, and obtain results of which the officers need not be ashamed.

## VESSELS CLASSED.

The American Ship Masters' Association, New York, have classed or rated this week in the "Record of American and Foreign Shipping" the following vessels: Screw steamers, City of Para, Genl. John M. Wilson, Eugene Grasselli and the Levi G. Burgess, the Danish bark Jorgensen; barges, Tunnell Ridge and David Z. Norton; schooners, Vidette, Jennie Lockwood, British schooner Energy, bark Sverre and Swedish brig Ida.

THE ordering of 3,000 tons of American ship plates by a ship yard in Belfast, and its being followed by an order for 5,000 tons for a Clyde establishment, is somewhat of a startling innovation in our export trade. These contracts have aroused considerable interest among British makers of ship plates. They have naturally concerned as to the reasons thereof, and are possibly apprehensive as to its continuance. It has not hitherto been thought that American competition could affect British home trade in this line, but when American plates at present prices are about eighteen shillings a ton cheaper than British made plates at Middlesborough, it is a close call for the English ship plate manufacturer.—Age of Steel.





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## A MERCHANT MARINE.

The United States Bureau of Navigation was the outcome of a moderate agitation for a Department of Commerce, which should hold the same useful relation to the trade and pursuits of the sea as the Department of Agriculture holds towards the industries of the land. The Department of Agriculture had its beginning in a commissionership. It has had many years the start of the Bureau of Navigation, and has accomplished great good for the farming community, and for the country. Of course it cost millions of dollars.

It is believed that for sixty years past our government has been wanting in eyes and ears and understanding of the needs of navigation and ocean commerce. There is a general reason assigned for this shortcoming. The competition of rivals in Europe and the "course of empire" to the west destroyed political interest in the growth of our merchant marine. Pelagic development could not carve out states, and hence became neglected. In our government the sea never had proportionate or adequate representation with the land. Since the war it has been nearly all land and no sea in Congress and the departments, and we are fortunate that this want of balance has not compromised our national as it has our commercial independence, through the loss of our marine in the foreign trade.

A merchant marine in the foreign trade is the only basis for naval power. Shipyards and ships, engineers and seamen of our own, if we have them, may defend the national honor and preserve the union.

Thoughtful men well know that our power upon the sea should keep pace with our strength upon land. As an instrument and vehicle of power there is nothing made by man that can excel a ship. A maritime nation must ever stand with one foot on the sea and the other on land. Necessity, as well as policy, should direct our national course. In the present state of progress, when so much of the force and fame of nations springs from the work of ships and seamen, it is degradation and guilt to avoid the field of so much daring and display. In the arena where the great nations of the world display their power the United States cannot fail to enter and contest the prize without loss of foreign standing and home respect, of rank abroad and pride at home.

## LAKE FREIGHTS.

There is little of moment to report relative to freight rate matters during the past week. Coal is apparently steady at 20 cents leading ports Lake Michigan or Superior and iron ore 40 cents Escanaba, with 50 cents from all Lake Superior ports. Duluth to Tonawanda 65 cents.

Chicago grain has ruled from  $1\frac{1}{8}$  to  $1\frac{1}{4}$  cents corn Buffalo, the latter figure being paid to boats loading up the river, at unhandy elevators, Collingwood  $1\frac{1}{8}$  cents on corn

and  $2\frac{3}{4}$  cents to 3 cents Kingston. At Duluth the shipments are dull, but while  $1\frac{1}{4}$  cents ruled for a time, freights within the last day or two are quoted at  $1\frac{3}{4}$  cents.

A peculiar feature of the wheat deals is noted not only in the two cargoes going to Chicago from Toledo as mentioned last week, but again in chartering from Manitowoc to Chicago at 1 cent per bushel; though doubtless the same wheat will be shipped direct to Buffalo after being inspected at Chicago. Similar chartering was done earlier in the season from Duluth to Chicago. Georgian Bay is catching a fair share or rather more than ever before of the Chicago grain trade for shipment across the Atlantic via Montreal.

## TABLE OF DISTANCES.

	Miles.
Hampton Roads to Havana.....	1,125
Hampton Roads to Porto Rico.....	1,600
Key West to Havana.....	90
Key West to Rio Janeiro.....	3,600
Key West to Porto Rico.....	1,100
Key West to Cape Verde Islands.....	3,300
Rio Janeiro to Pernambuco.....	1,000
Cape Verde Islands to Pernambuco.....	1,700
Cadiz to Canary Islands.....	1,050
Cadiz to Cape Verde Islands.....	1,600
Cadiz to New York.....	2,800
Cadiz to Porto Rico.....	2,700
New York to Manila.....	14,000
San Francisco to Manila.....	6,600

## LAKE AND RAIL RATES.

A circular is out calling the regular meeting of the Central Freight Association, to meet in Chicago, May 11. There are a number of matters included in the list of subjects which interest Ohio lines. A misunderstanding seems to exist as to the interpretation of the application of the differential lake and rail rates by the way of Toledo, Detroit and Cleveland. Some of the traffic managers are of the opinion that the rates should only be made from one of the lake ports to an inland point, or from an inland point to either Toledo, Cleveland or Detroit. But the rates are being applied from one inland point to another by way of the lakes. One of the objects of the meeting is to adjust the differences over this point.

Several questions relative to the car ferry and rail rates across Lake Michigan will be up for consideration. An effort will be made by the car ferry lines to secure the authorization of some new rates into the trunk line territory. At every meeting the car ferry lines are reaching out into new territory and increasing the facilities for handling business. The traffic men will indulge in a little war talk. Under one head, they will discuss rates on the United States troops and equipment and the mode of handling them.

## WORKINGS OF THE BAROMETER.

The wind barometer scale issued in supplemental form with this issue of the MARINE RECORD, was compiled by Professor Garriott, who is one of the most learned officers in the Weather Bureau branch of the public service, and at present in charge of the work at Chicago.

From a technical and educational standpoint the scale will be found of increasing value, as in the general busy season of navigation few shipmasters or pilots are in a position to observe the workings of their barometers close enough to tabulate in the form which the professor has been enabled to do.

In addition to the supplement, several hundred imprints of the table on cardboard are ready for special distribution from the RECORD office.

## SUEZ CANAL—NEUTRAL WATERWAY.

Concerning the right of vessels of war in time of war or in time of peace to pass through the Suez canal the New York Times has the following:

It has been repeatedly stated in the past few months that the ships of nations at war could not pass through the Suez canal. That was the common belief, and many people who prided themselves on the accuracy of their general information have been not less confused than surprised to find, on looking the matter up, that they were entirely mistaken. The canal is as free—except for the little detail of tolls—to the navies of every nation and at all times as are the waters of the open sea itself, and this has been the case ever since 1888. Early in that year England, France and Turkey agreed on a convention making the canal a neutral highway, and a few months later all the powers gave their acquiescence. The instrument explicitly permits the transportation of war material and ships of war through the canal, whether peace prevails or not, and only prohibits overt acts of hostility between or within three miles of the terminal.

## A TELEGRAPH CABLE.

The firm of John A. Roebling's Sons Co., Trenton, N. J., have just completed for the Western Union Co. a twenty-nine mile telegraph cable to be used between Port Angeles and Victoria, B. C., and will cross Puget Sound.

One section of the cable is twenty miles in length, and the other nine miles, the former requiring six cars of 60,000 pounds capacity, and the latter three cars. It was loaded on the cars in the shape of a figure of eight, layer upon layer, back and forth. Upright boards were placed along the sides of the cars to give greater capacity, and a temporary roof built over the cable.

The entire cable weighs 421,080 pounds, nearly half a million pounds. It was made at the rate of about a mile a day.

During the entire process of manufacture the Western Union Co., had an electrical expert on the ground to see that no flaw or defect should be made in its construction. He was equipped with the most delicate appliances for detecting defects. The cable as it was made passed into a large tank of water, and from there to a small room, in which, all day long, sat the expert, notebook in hand, ready to jot down any indication of a flaw that might be shown by the delicately-adjusted galvanometer. An electrical current was constantly passing through the cable, and if at any time the slightest blemish had occurred the current, assisted by the water, would have sought it out, and a telltale kick in the mirror of the galvanometer would have thrown a beam of light reflected by it upon a graduated scale.

The expert had little to do, however, and his notebook was a blank so far as flaws were concerned, for so accurately was the work done that not a single blemish was found throughout the entire twenty-nine miles of cable.

The very best gutta percha was used for insulating the three conductors of which the cable consists. Ordinarily one thinks of gutta percha and India rubber as identical, but as a fact they are widely different. Gutta percha is far superior for submarine cables, because of its electrical properties. It is carefully prepared and applied to the copper wire forming the conductor in such a way as to make a uniform coating to prevent the leakage of electricity. In this cable three conductors were covered and then twisted together, forming the cable proper. The conductors were a little more than  $\frac{5}{8}$  of an inch in diameter, made of the finest copper wire. The gutta percha covering increased the size of each to  $\frac{1}{4}$  of an inch. Around the conductors after they were twisted together were wrapped layers of jute twine, forming what is technically known as the "jute bedding." The object of this was to protect the insulation from the outside wire, known as the armoring, as the cable is to be laid along the bottom of the Sound, and may come in contact with jagged rocks, and possibly be suspended here and there between rough crags for several hundred feet. This armour is made by winding about the jute bedding fourteen wires nearly as large as a lead pencil. This wire was previously treated with the Roebling double galvanizing process, to prevent the action of the sea water upon the steel. This latter covering was what gave the cable its silvery glistening serpentine appearance as it curled and twisted through the cupola of the building.

This enormous cable is now on its way to Puget Sound. It is under the charge of two men. They will have little difficulty in preventing anyone from running away with a part of their charge, for, as the cable is more than an inch and a half in diameter, the task of chopping off a section of it would be extremely difficult.

The Roebling Co. is now at work on some submarine cables for the government, about twenty-eight miles, which may be used in some of our harbors to repulse any attempts of the Spanish to enter.

## A STEAM FOG WHISTLE.

The Light-House Board has been authorized to establish a steam fog whistle at the entrance to Muskegon harbor. The money will be taken from the general fund at the disposition of the board. The Secretary of the Treasury has been authorized to establish a life-saving station at or near Charlevoix. The character of the equipment, the number of men and other details will be determined by the general superintendent of the life-saving service.

THE wooden steamer Amazonas, built at the Davidson shipyard, West Bay City, and hailing from Port Huron, has received her official number, her tonnage is 2,229 gross and 1,931 net. The tug Henry C. Lydon, built at Benton Harbor, and owned in Chicago, measures 67 tons gross and 20 tons net.



**THE LUMBER CARRIERS.**

Some of the Buffalo lumbermen claim that the Lumber Carriers' Association tonnage is shading the minimum rates by playing the railroad game with the interstate commerce commission—giving a shilling rebate at the lower end.

A Detroit member of the Lumber Carriers' Association is quoted as saying that he thought the reports concerning alleged cutting of carrying rates on the part of members were instigated by dealers who would like to see the association go to pieces. "As far as I know there has not been one instance of rate cutting," he said, "and if there were I would have learned of it before this. As a matter of fact, the carriers realize that after their years of money-losing this is their last chance to take a good stand against injustice. If they fail this time they might as well never try it again, for a defeat now will cause every carrier to distrust every other carrier when it comes to agreeing on rates in the future.

"Yes, there is not the least doubt that the members will have to sacrifice temporary self-interest many a time before the dealers are finally conquered. For instance, I am the owner of a large fleet and of large mills as well. I may want to sell 20,000,000 feet of the product of my mills, and the prospective buyer may say, 'Now, I will buy this lumber and give you the monopoly of carrying it if you will cut rates 10, 15 or 20 cents.' I could do this and so fix the prices as to get it out of him in that way so that he would make nothing by the rate-cutting. If dealers had any kind of a financial hold on the carriers, they would use bulldozing methods and try to force them in that way to cut rates, and it may be done yet. There are other ways in which some of the smaller carriers might be forced, and it may be tried if the dealers find themselves reduced to desperate straits.

"No, I don't think the tonnage outside the association amounts to enough to do us damage by chartering to the dealers and competing with us at lower rates. What remains out is, from what I can learn, the uninsurable class, the owners of which cannot afford to enroll them in the association, pay tonnage dues and other expenses, and tie themselves down to an ironclad agreement to carry at a rate that is given larger and better boats. But there are very few of these left. Storms have taken them out of existence, and there have been no fleets of schooners from which to recruit, as there used to be fifteen years ago.

**A LOWER STAGE OF WATER.**

A report from the head of the lakes says that the stage of water does not improve, looked at by comparisons with corresponding months last year. The decrease last month from the average depth of water at Duluth during the month of April as compared with April last year is  $8\frac{1}{2}$  inches. The decrease in depth for March as compared with March last year was  $7\frac{1}{2}$  inches. The decrease noted in February as compared with February last year was 7 inches.

April ordinarily shows some improvement and the present decrease of  $8\frac{1}{2}$  inches as compared with a year ago is an important factor in cargoes. A vessel of the capacity of the Siemens cannot load within 350 tons as much ore as she could a year ago this spring.

As all large boats are affected in about the same degree it will be seen that the amount of ore to be moved by a boat or a fleet of boats will be materially reduced during the season, unless there is a radical improvement in the stage of water. If the average comparative decrease by months is maintained through the season a fleet of boats like that of the Bessemer Steamship Co. will not be able to move within 113,100 tons of ore of what they moved last season, reckoning a loss of 350 tons a cargo, eighteen vessels and eighteen round trips.

**GRAIN SHIPMENTS AT CHICAGO.**

While vesselmen have been bitterly complaining of dull times the grain trade by lake from Chicago for April attained unprecedented figures for the opening month of navigation. Of course April shipments include the winter grain fleet, but since the first boat sailed the amount of grain stored on board vessels during the winter has been duplicated in the shipments. The grand total in bushels was as follows: wheat, 5,808,274; corn, 18,200,576; oats, 5,130,548; barley, 427,941; rye, 1,014,750; total, 30,652,089. This remarkable record in the grain trade goes far to disprove the claim that Chicago's commerce by water is disappearing. Notwithstanding obstructions in the river, it has been navigated by larger boats, and bigger cargoes have been taken out during this spring than ever before. In its capacity to accommodate the largest lake boats the river seems to be steadily improving,

owing to the skill of tugmen and the urgent demand of elevators that the way be opened up to the largest sized vessels. The record of the past month shows that the so-called dull times in the marine business are not due to the lack of business in grain shipping, but can be attributed solely to the large increase in big carriers. The business has grown, but its growth has been exceeded by that of the carriers.

**"SOO" CANAL REPORT.**

The annual miles-ton report of the canals at Sault Ste. Marie, Michigan and Ontario, for 1897, shows an enormous increase in the amount and value of freight which passed to and from Lake Superior last year, over any previous season. In 1896 the value of all articles was given at \$159,575,129.43. In 1897 it amounted to the stupendous sum of \$218,235,927.77, an increase of \$58,660,798.34. With an increase of 2,743,694 net tons, or 11 per cent. in freight carried in comparison with the season of 1896, the rate per mile-ton was materially lowered, it being .83 mill in 1897, while it was .99 mill in 1896.

**MARITIME LIEN FOR DISBURSEMENT.**

The House of Lords, in the appeal case of the Sara, decided that the master of a ship has no lien for disbursements rendered necessary in the prosecution of his voyage. Sanctioned by decisions of the courts of admiralty and appeal, it has been a custom for merchants, bankers, etc., to find money or goods, or both, for ships' disbursements at ports abroad, the captain drawing a draft on the owners for the amount due; owners of these drafts, knowing, that if the owners failed and the vessel was mortgaged, they could sue the captain, who, for his own protection, could seize the ship and pay the drafts out of the proceeds.

**AMERICAN ENGINEERS.**

The convention of the American Society of Engineers to be held in Detroit this summer, promises to be one of the important events of the season. The organization includes in its membership many of the noted civil engineers of the United States and Canada, whether army, naval or civilian.

President Alphonse Feeley has appointed, as a board of direction, to take charge of the arrangements for the convention Messrs. George Y. Wisner, J. J. McLean and Charles Warren Hunt.

A local committee consisting of Geo. Y. Wisner, A. B. Atwater, C. E. Greene, D. A. Moliter, G. S. Williams, J. D. Hawks, H. S. Hodges and J. C. Hutchins was appointed to assist in making the convention a success. An attendance of 500 members is looked for at the convention.

**OBITUARY.**

(CAPT. THOS. D. GROVER.)

Thomas D. Grover was born September 13, 1811, in Germantown, Pa., and died Sunday, May 1, 1898, aged 86 years, 7 months and 18 days.

He was married in 1832 to Frances Wild, with whom he moved to Chicago. To them were born four children, only one of whom survive—a daughter, living in Nebraska.

From the age of 14 years, the late Capt. Grover followed the lakes until his retirement from active service and he was one of the oldest captains on the chains of lakes. For the past 13 years he made his home with his brother, S. B. Grover, who cared for him in his feebleness of body and mind, incident to old age. For many years he was an active member of a Masonic lodge in Chicago, and Ely lodge of Vermillion conducted the funeral services at the cemetery.

Fifty years ago the deceased was baptized and became a member of the Baptist church.

The old captain's long voyage over the sea of life is ended. The billows of earthly trial are past forever, and the waves wash the shore. No more fear of storm or shipwreck. Guided by the Divine Pilot may the ship of his soul be safely anchored in the harbor of eternal peace.

Rev. W. H. OSWALT.

A CONTEMPORARY pertinently states that it is somewhat remarkable, when one considers the matter, that the line officers of the navy have never asked themselves what they would do some day, with ships to command and no engineers competent to manage the motive power. They are men upon which heavy responsibility rests, day and night, in peace or war, and there have been many instances of mental and physical breaking down. There are captains, commanders and lieutenants enough for the new ships, but no engineers, and competent engineers can not be secured off-hand.

**AN OLD TIMER.**

The Herald, Lorain, is in receipt of a letter from C. G. Calkins, Berkeley, Cal., which touches upon old times in Lorain. Mr. Calkins says: "The recent launching of the large steel steamer Superior City reminds me of the launching in 1839 of the Algonquin, the first regular sailing vessel on Lake Superior. She was built by 'Washie' Jones, who was very proud of the achievement. She was a 40-ton schooner, and was hauled on land past the Straits, and again launched. She saw some years' useful service, but what was her end I am not informed.

About that time I saw the schooner Texas, Capt. Edgecomb, loaded with staves, aground between the piers. The Bunker Hill steamboat, Aaron Root captain, tried to tow her out, but with all the headway gained by using as long a hawser as would hold, she could hardly start her a foot.

Staves, wheat and potash were nearly all the freight from Black river then. Mails came twice a week, but boats called often, chiefly for wood. Considerable shipbuilding was or had been done. All the school children were taught in one room, where Quin Gilmour was fond of declaiming the battle of Waterloo from Byron. There, too, Jim Sumott would often annoy the pupils in exactly the same manner as he did the recruiting officer in Cleveland, who shot and killed him. There was but one place for religious meetings—the old schoolhouse—and the congregation was not enough to break down the floor.

Where are now John B. (Dennison), Johnnie Vetter and the rest of the eight Johns, and of the six Henrys in school? One doctor, Samuel Strong, administered in all cases over a large precinct, and he was faithful and successful, but one evening he was calling on me and complained of fatigue, etc.; did not know what ailed him. I informed him it was ague, and, though he had doubtless seen twenty patients that day with some form of malarial disorder, could not realize it. He went home at once and to his bed, and sent for Esq. Baldwin to come and bleed him.

I am not posted in Lorain affairs, recently, but could crowd your columns with those of the time I was a denizen,

**GREAT TUGS.**

F. W. Wheeler has sold the powerful tow boat William H. Brown to the government, and Uncle Sam thus becomes the owner of two of the fastest and most powerful tugs ever built on the lakes. The other tug is the Robert W. Wilmot, and both were built by the F. W. Wheeler Ship Building Co. They are built alike, 156 feet long and of 800 tons displacement. The Wilmot was sold to the government by Wilmot Bros., New Orleans, for whom F. W. Wheeler & Co. built her, and the sale of the Brown, built for W. H. Brown, of Pittsburg, was negotiated by Mr. Wheeler, who had not yet let her pass from his hands. These tugs can pull a battleship around a harbor as if she were a lumber hooker, and are built so that they could carry and use an 8-inch gun without strain or damage.

**TRADE NOTES.**

H. Channon Co., of Chicago, have received from their agents at Johannesburg, South Africa, a large order for Ajax transmission rope to be used in one of the largest mines in South Africa.

A good example of despatch in filling orders in war times is found in the fact that in nine days from receipt of order, the Lidgerwood Manufacturing Co., New York, furnished ammunition hoists for the war ships Yosemite and Dixie, being fitted out at Newport News as auxiliary cruisers. The order consisted of ten complete hoists, comprising double cylinder engines, cages, guides, sheaves and the necessary equipment.

Chas P. Willard & Co., 13 and 15 North Canal Street, Chicago, Ill., are sending out a list of the steam yachts and launches on hand. This firm are dealers in steam yachts, steam launches, naphtha and gasoline launches, tug boats and marine machinery of all kinds. In addition to the completed boats in this list, they have also for sale a variety of marine machinery—some of it new—including yacht boilers, engines, pumps, condensers, shafting, etc.

THE contract for releasing the steamer J. H. Outhwaite and schooner H. A. Barr, ashore at False Presque Isle, Lake Huron, has been awarded to Capt. James Reid, of Bay City. Capt. Reid is to receive \$7,500 for the Barr, and one-third of the appraised value of the Outhwaite when delivered in Detroit. If he fails to release the vessels he gets nothing. Capt. Reid goes to work at once, and is confident of releasing both vessels.



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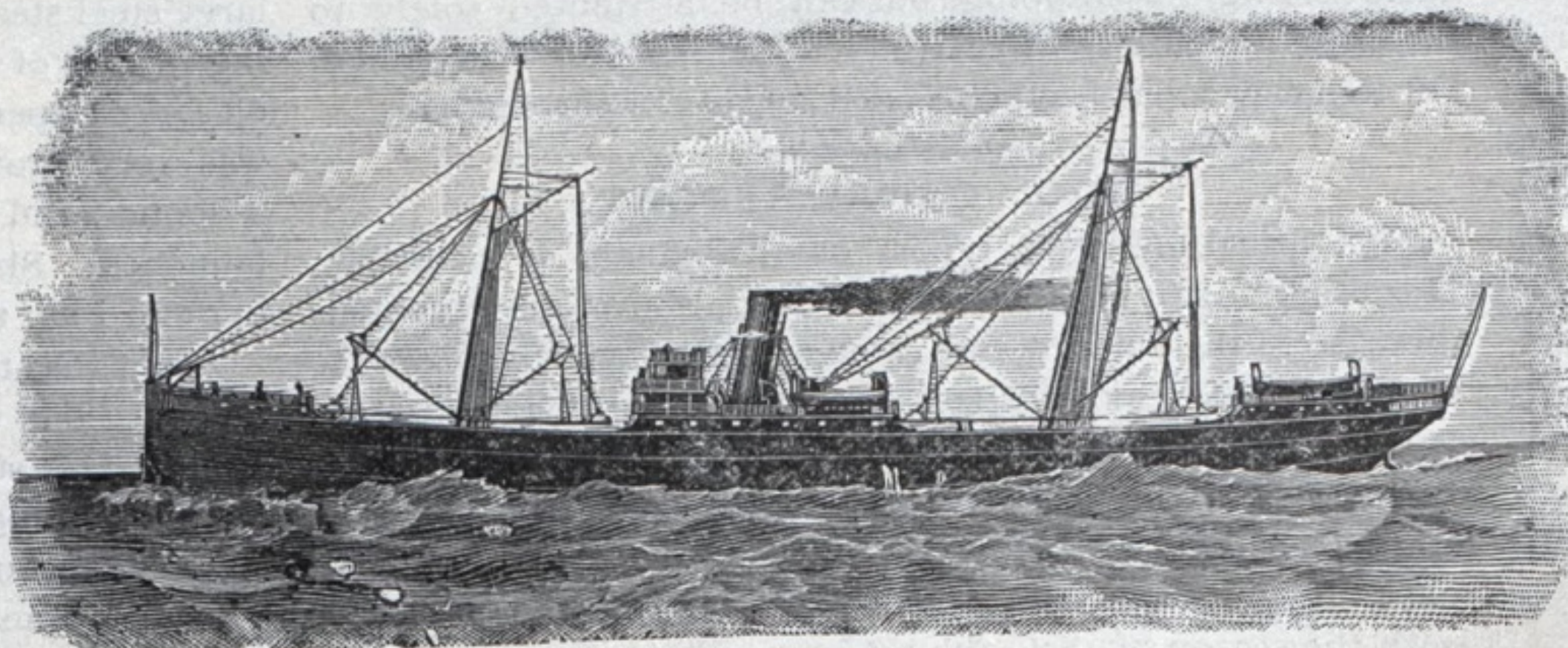
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### TO KEEP OIL OUT OF BOILERS.

(From the Engineer, New York.)

Many of the great ocean liners, which must use the condensed steam in order to avoid filling the boilers with salt water, use filters to extract the grease from the water before it reaches the boilers at all. Various filtering mediums are used for this purpose. On some of the Sound steamers straw or hay is used, while in other instances cast iron boxes tightly packed with sponges have been tried. On the White Star steamers the Edmiston filter is used, the oil in this case being extracted by diaphragms of woven filtering materials, compressed between perforated metallic plates, and this form of grease filter has been highly recommended. For land purposes, where space is not such an important consideration as at sea, both sand and coke have been used, and there is no doubt that by use of a sufficiently thick layer of such materials, and by frequent renewals, much of the grease from condensed steam may be removed and the water made fit for boiler feed purposes.

Where there is lime in the feed water the presence of oil in the boiler is especially objectionable, as a soft, spongy mass is formed, which collects upon crown sheets and flues, often with most disastrous results.

There are two points in this matter which if observed would enable much of the trouble to be avoided, and that, too, without involving recourse to any special appliances. In most instances far too much oil is fed into the steam, and the engines would work all right with very much less oil than is usually fed to the cylinders. A good quality of oil should be used, but the quantity fed should be made a minimum, not only for economy in first cost, but also for protection to the boilers. In nearly every case a most wasteful excess of oil exists, and there is loss at one end from excessive oil bills and at the other end from damaged boilers. In one well known instance a careful engineer was using eight drops of oil to one revolution of the engines, and it was found that this could safely be reduced to one drop to eight revolutions without injury to the cylinders from insufficient lubrication.

Another point is to be noted in regard to the character of the lubricant. The high grade cylinder oils are supposed to be made from mineral sources and to contain no animal matter. Now kerosene oil and its derivatives are found not to be injurious to steam boilers, but on the contrary are fre-

quently introduced in order to loosen boiler scale and prevent its formation. The principal difficulty occurs with the small percentage of animal oil, which in order to improve the lubricating qualities is often mixed with cylinder oils. Animal oil should never be permitted to enter the boiler, and the lubricant used in condensing engines should be carefully examined, and the absence of animal oil assured. When this is done, and when, by close and careful experiment, the very least quantity of lubricant possible is used in the cylinders, the best precautions against injury to the boilers will have been taken.

### VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Buffalo .....	969,000	979,000	704,000	157,000	197,000
Chicago .....	3,151,000	9,887,000	911,000	281,000	101,000
Detroit .....	33,000	194,000	10,000	1,000	1,000
Duluth and Superior	3,006,000	2,355,000	1,861,000	193,000	51,000
Milwaukee .....	144,000	.....	6,000	16,000	.....
Montreal .....	206,000	122,000	1,057,000	72,000	44,000
Oswego .....	.....	84,000	.....	.....	20,000
Toledo .....	388,000	485,000	290,000	25,000	.....
Toronto .....	18,000	.....	2,000	.....	7,000
On Canal .....	.....	.....	46,000	.....	.....
Grand Total .....	2,528,000	24,913,000	9,534,000	1,886,000	606,000
Corresponding Date, 1897 .....	31,862,000	15,061,000	10,895,000	3,153,000	1,589,000
Decrease .....	735,000	2,131,000	1,684,000	944,000	235,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

### PROPELLERS.

A writer in the April issue of Marine Engineering contributes an illustrated article regarding "A Curious Phenomenon in Propeller Blades," in which he states that for some time, "at every period of docking the liners, Paris, New York, St. Paul, and St. Louis, their propeller blades were chipped and faired on the leaving edge. It was claimed that this portion of the blade curled in toward the driving face, and in order to keep this face fair and the pitch as designed, it was necessary to chip off wedge of metal varying

from three to four feet long, at the back of the wedge, to from six to eight inches broad. As much as three-eighths of an inch has been chipped off at the leaving edge of the blade." It is stated that this chipping fair decreases the slip by about 1½ per cent. The writer goes on to say how to account for the fact that a metal should bend against a pressure is not easy, but the mere fact that a company of such repute should take account of it is assurance enough to bring it to the consideration of marine engineers. One theory advanced is that the tremendous pressure of the water on the blades would act in the same manner as a knife blade drawn across the face of a sheet of paper, curls it up toward the pressure. He further states that from an extended experience in measuring propeller blades, he has found that even in the most carefully made blades there are small hills and hollows. These uneven surfaces traveling through the water at such a high speed, would tend to form little eddies and bubbles which would in all probability leave the blade at just that point where the chipping is done. As they are swept together there is reason to believe that a partial vacuum might be formed and the blade bending to the form of least resistance takes a permanent set. When the liner Paris was recently overhauled, the propeller blades were polished with a buffing wheel, which, considering the enormous amount of surface friction, when the propellers are moving, should materially increase their efficiency.

In the same issue of the journal is a brief illustrated description of a proposed electrically-driven torpedo boat, which may be a harbinger of departure in the propulsion of sea-going craft. No less than sixteen propellers are shown, driven from eight distinct motors, two propellers thus being on each shaft. Twelve of them are located at and around the stern, and four at the bow. Possibly the latter are intended only for propulsion when the vessel is going astern. The design emanates from Mr. Richard B. Painton, and although he prognosticates that Atlantic greyhounds equipped with Painton motors will "easily cover 40 knots," his proposal is most impracticable—for whereas in the Turbinia steam power is directly utilised, in the proposed Painton craft, steam turbines are to be used in driving electric generators to supply current to the several motors; necessarily entailing loss of efficiency and increased weight, to which, it must in fairness be added, our contemporary is fully alive.—Engineering Gazette, London.



## LAKE COMPETITION.

The New York Financial News calls attention to the factor in freight rates between the West and the East which is furnished by the increase in lake tonnage and the character of the newer vessels. It says:

This has been but little taken into account by investors and speculators in trunk line shares, and particularly the great Vanderbilt system between New York and Chicago. Yet it is a matter that must, more and more as each year goes by, dominate carrying rates from the opening to the closing of navigation on the Great Lakes.

That corn is now carried from Chicago to New York for four cents, under conditions that are likely to be permanent from April to November in each year, is a measure of the change that has come about, not from any special cutting of rates or temporary causes, but from the natural growth of cheaper carrying capacity by water, the freight from Chicago to Buffalo being down to one cent a bushel.

The excessive competition which has so brought down carrying rates in the last few years has forced the finding of "the lines of least resistance" and this must develop the water lines of the North just as it has developed the low grade lines to the Gulf in our Southwestern states and against this, the high grade lines from the Mississippi basin over the Alleghenies will find competition a very expensive matter.

## A LAKE TRIP.

"In all the world no trip like this," reads a line on the cover of the handsome little pamphlet issued by the Northern Steamship Co. The reading matter comprises a chatty article by Jeannette L. Gilder, on the joys of a trip from Buffalo to Duluth, and the frank confession of an Englishman whose opinion of American pleasure tours was revolutionized by a voyage on the North West.

"As we approached Detroit," says Miss Gilder, "I could scarcely believe I was in America. The shore with its pretty summer houses is cultivated to the water's edge, and the land lies so low that it reminds one of Holland, particularly where the big windmills toss their long arms against the

sky. The City of Detroit soon appears, and its sky line reminds one of a miniature New York, for tall buildings rise on every side. Its distinctive feature is its electric light pillars that look like little Eiffel towers in the distance. The effect of these tall clusters of lights is very picturesque.

"Sailing away from Detroit we skirted Belle Isle, its lovely lakeside park, which looked like fairyland with its lagoons and rustic bridges. The little houses of Star Island, all roof and piazza, with their hanging baskets filled with gay colored flowers, looked for all the world like so many house boats washed back on the shore."

Miss Gilder and the Englishman go into ecstasies not only over the 1,065 miles, but the unsurpassed accommodations provided on the North Land and North West.

"What really surprised me," says the Englishman, "was the luxuriously equipped staterooms. I thought it a shame to call them staterooms, for really they are commodious apartments, the majority being fitted up with brass beds the equal of a palace hotel, and in addition not a few of the rooms have private baths attached. It was more like a floating hotel than anything I have ever seen. The smoking-room I found a dream of a place, the library superior to that of the Atlantic liner on which I came over, and the social hall was gorgeously fitted out."

The pamphlet is full of half-tone illustrations on the finest book paper, including views of Detroit, Belle Isle, the Flats, Mackinac, Duluth, Buffalo and Cleveland.

## NOTES.

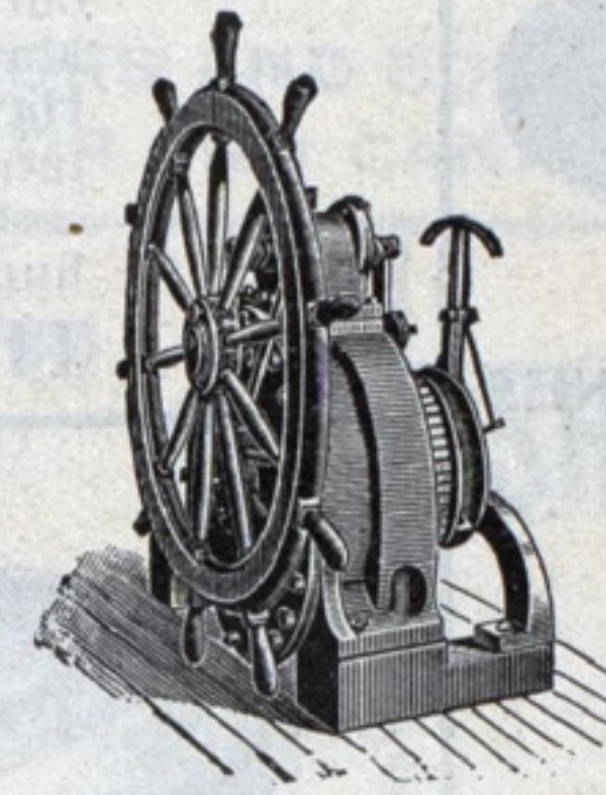
CHAS. H. CRAMP, President of the Cramp Shipbuilding Co., who has been in Russia for the past two months, has notified the home office that he has been awarded contracts for the building of two of the warships provided for in the new Russian navy appropriation. Mr. Cramp is now in London. One of the new vessels is a battleship of, approximately, 12,500 tons displacement, to have a guaranteed speed of 18 knots per hour throughout a trial trip of twelve hours' duration, at load draft, and carrying 1,000 tons of coal. The other is a protected cruiser of about 6,100 tons

displacement, to develop a speed of 23 knots per hour under the same trial conditions as those just stated, and carrying 725 tons of coal. This is the first award of a contract for the construction of a battleship to be built abroad in the history of the Russian navy, and the protected cruiser is also the largest and most important vessel of that type ever ordered by the Russian government in any foreign shipyard.

Not a single steamship flying the American flag is engaged in crossing the Atlantic Ocean since the government took the St. Paul, St. Louis, New York and Paris.

CAPTAIN JAMISON, who was in command of the St. Paul when she was on the American line between New York and Southampton, has been assigned by the International Navigation Co. to the command of the British steamer Berlin, which is to run between New York, Southampton and Antwerp. All the vessels of the International fleet running from New York will touch at Southampton and Antwerp, excepting the Chester, which is to stop at Queenstown on the way to Antwerp. The Chester, which is to sail from Southampton on May 14, for New York, has been laid up on the other side for about two years. She will sail from New York about once every three weeks.

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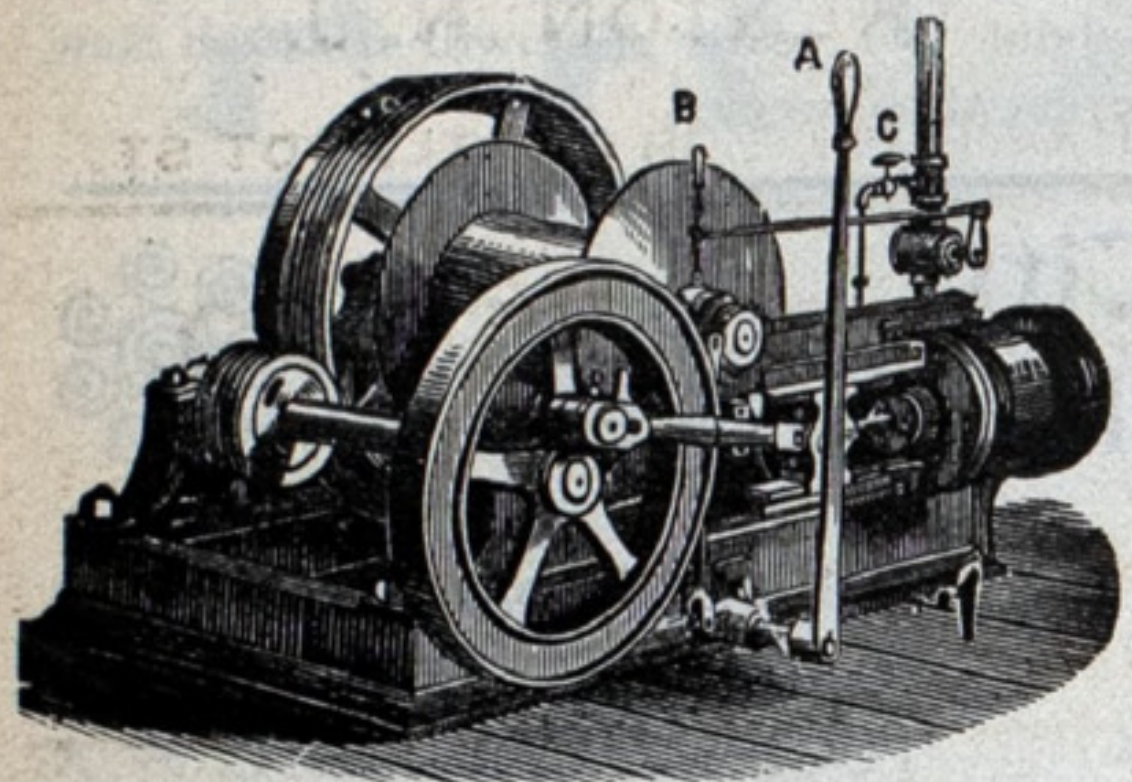
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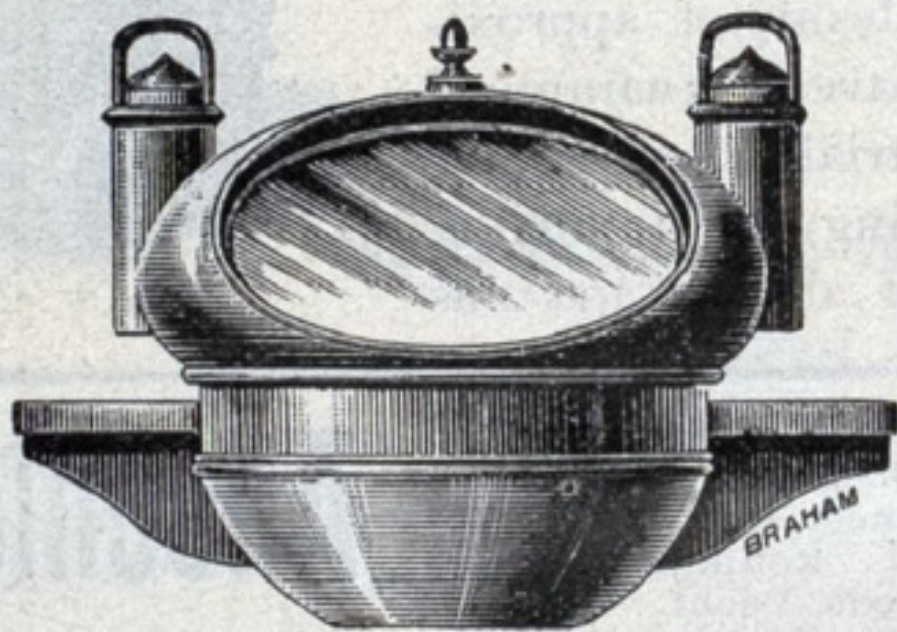
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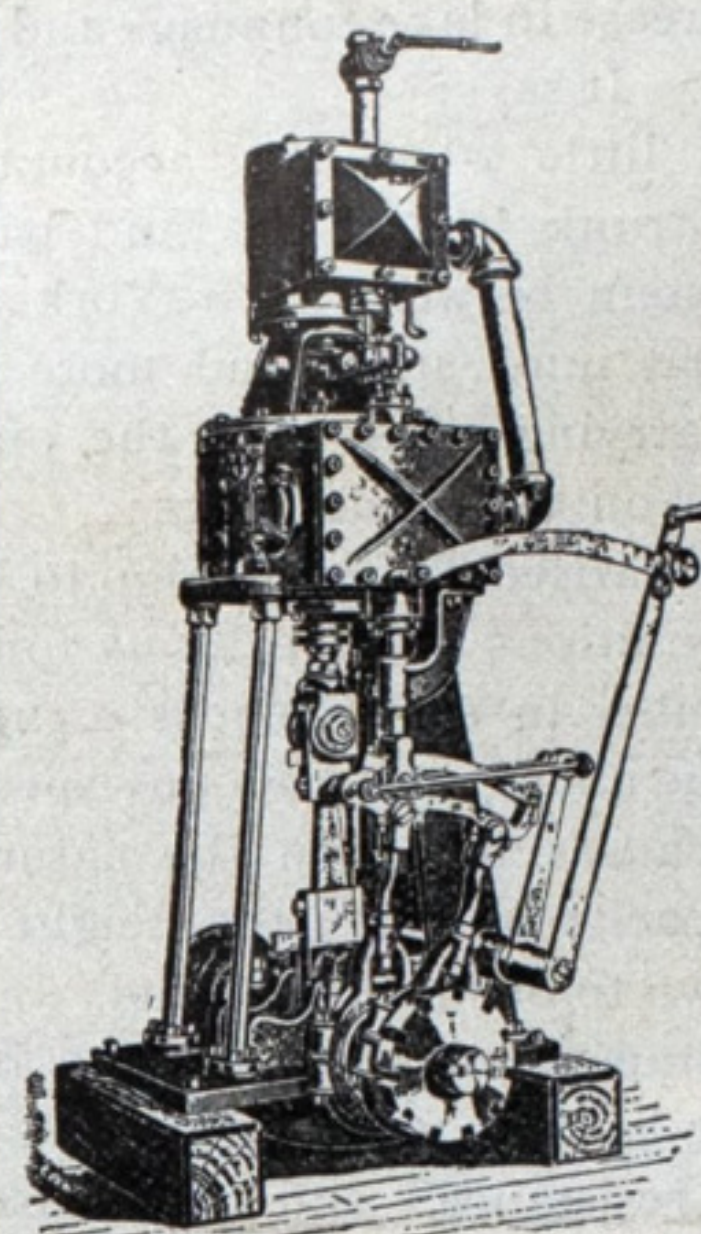
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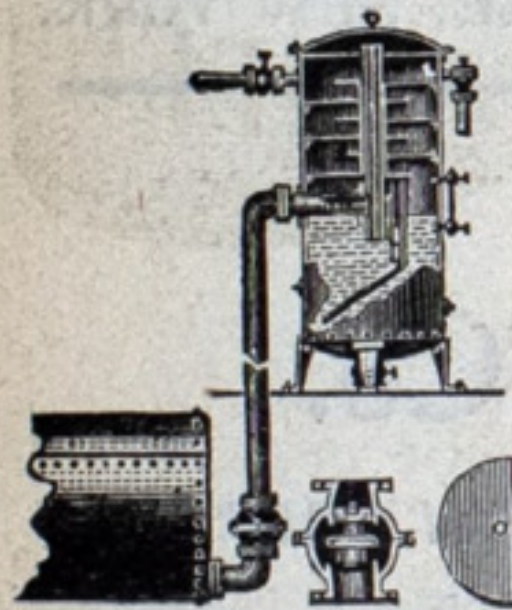
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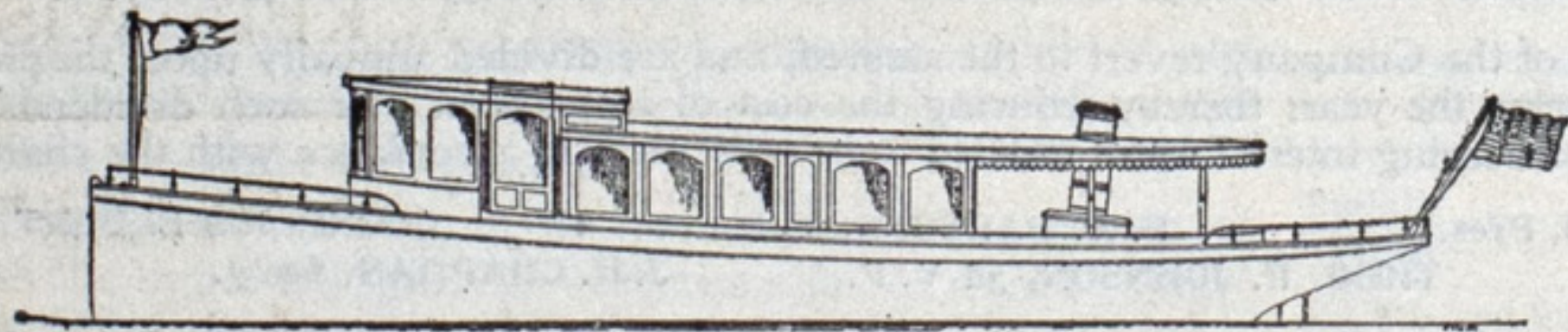
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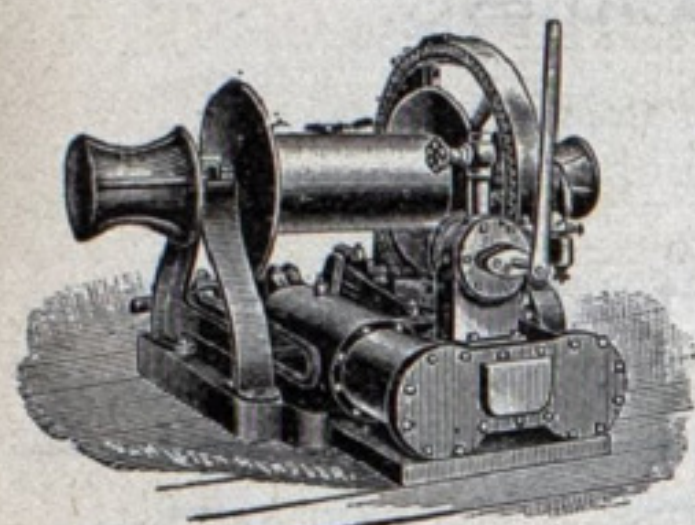
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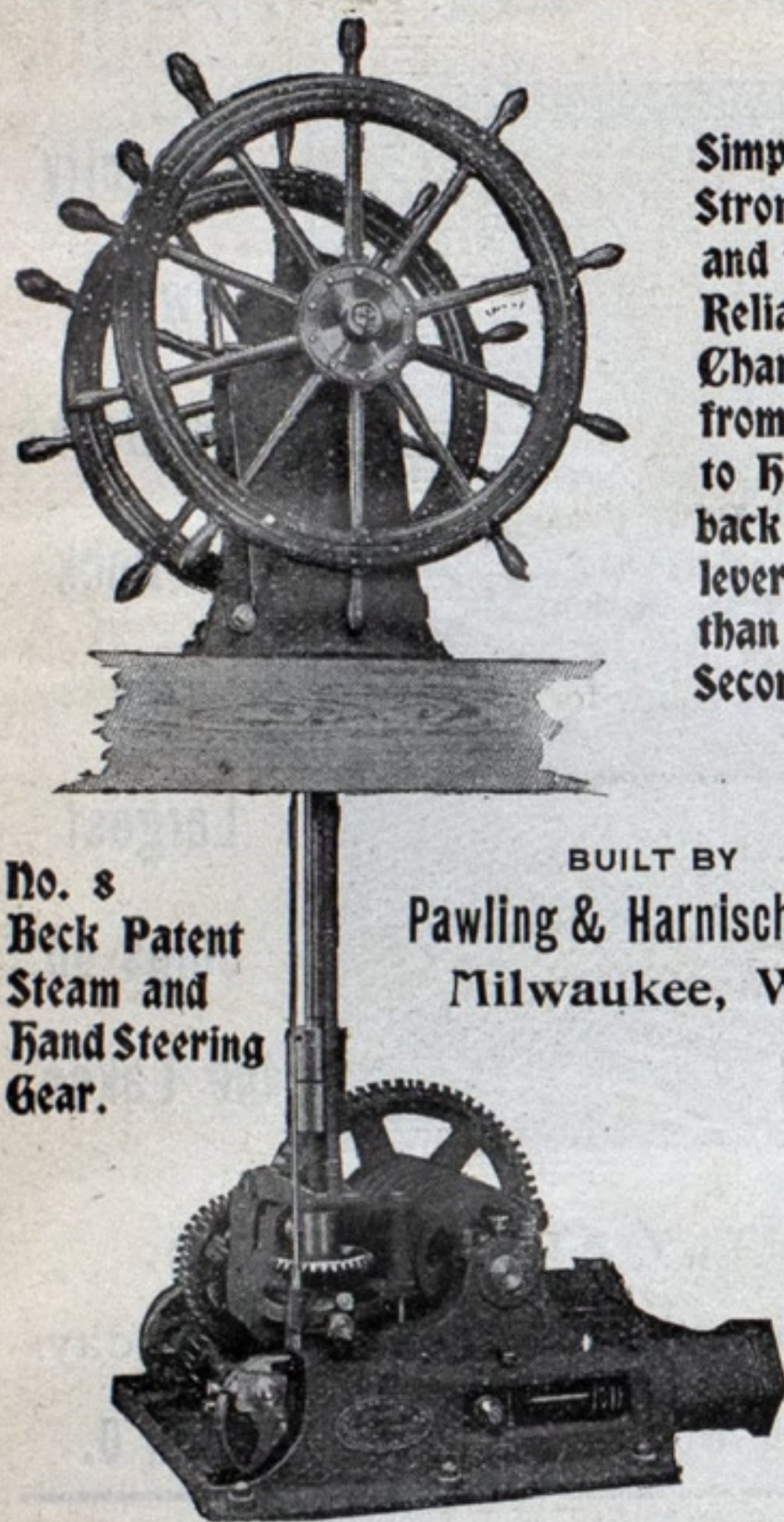
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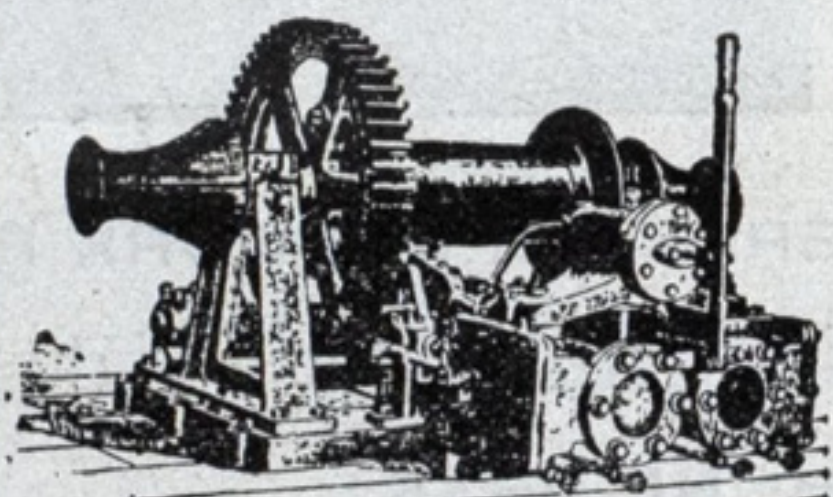
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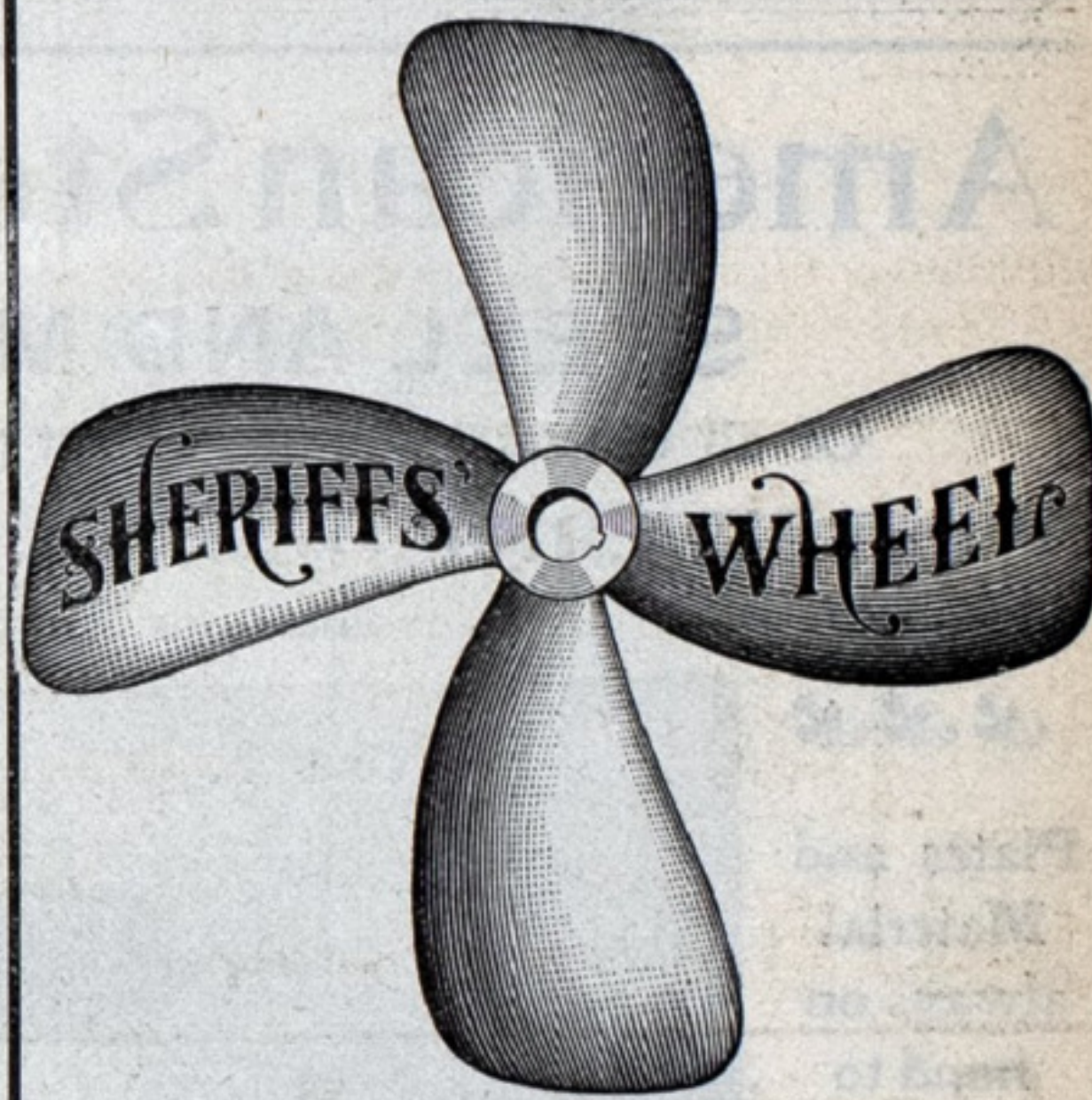
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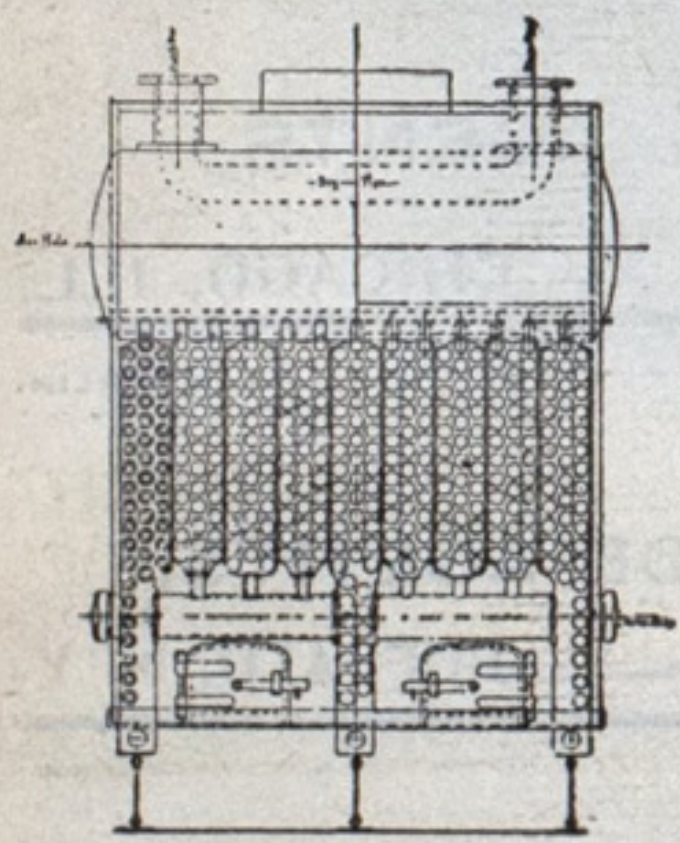
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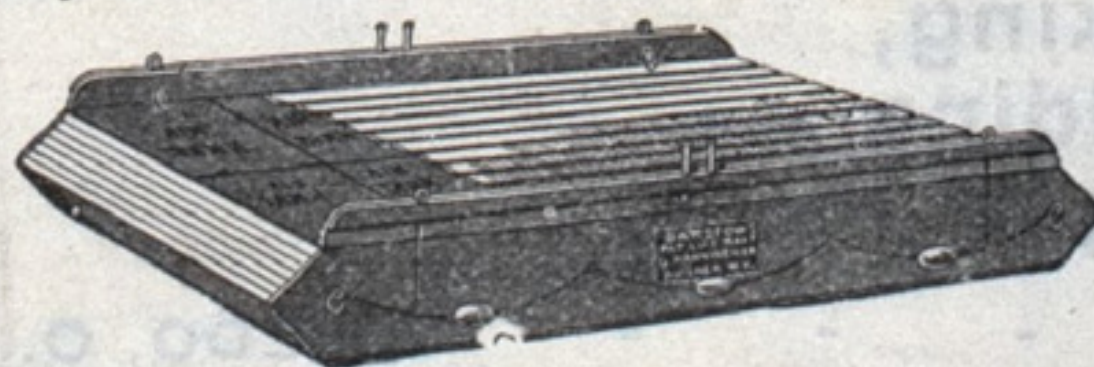
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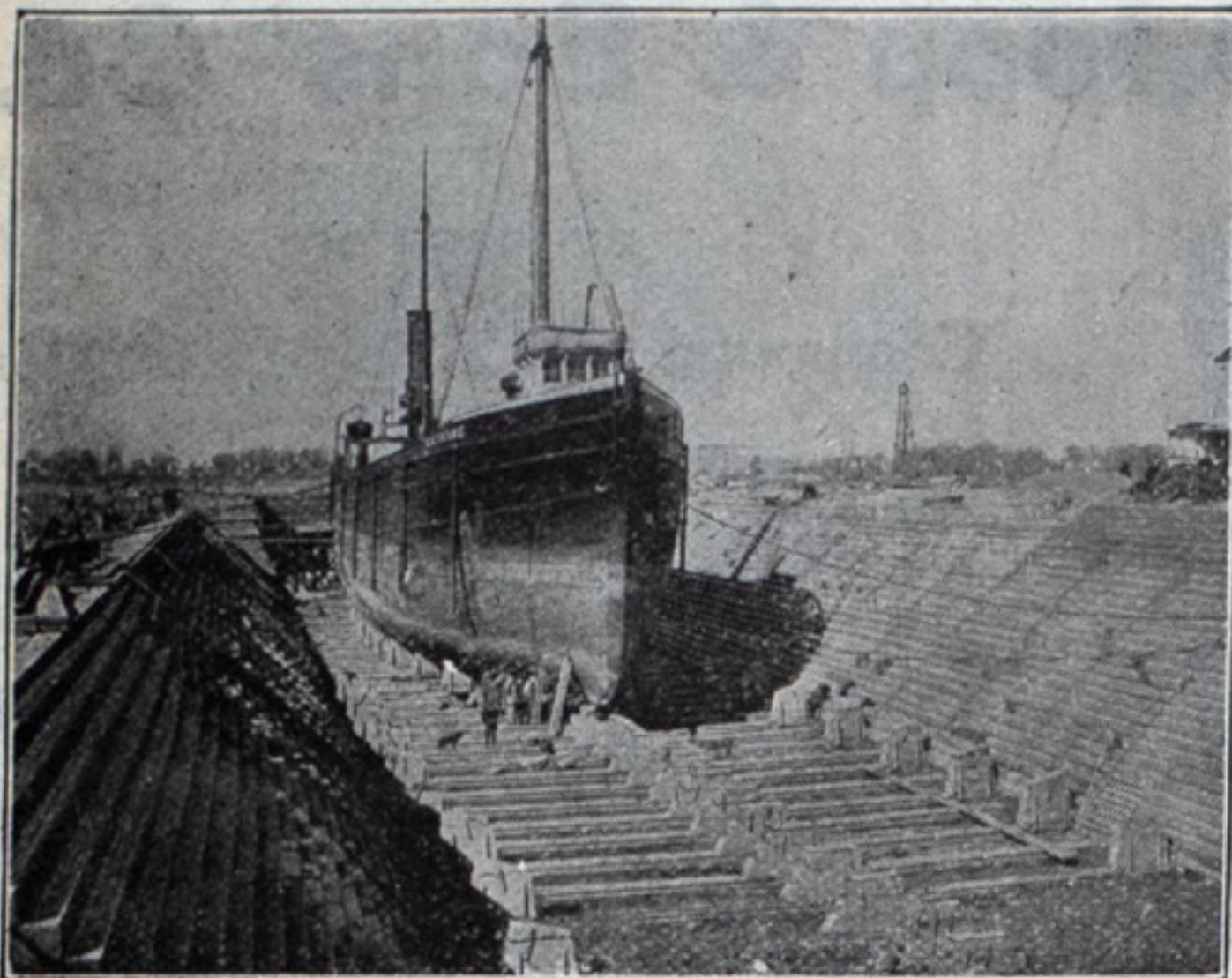
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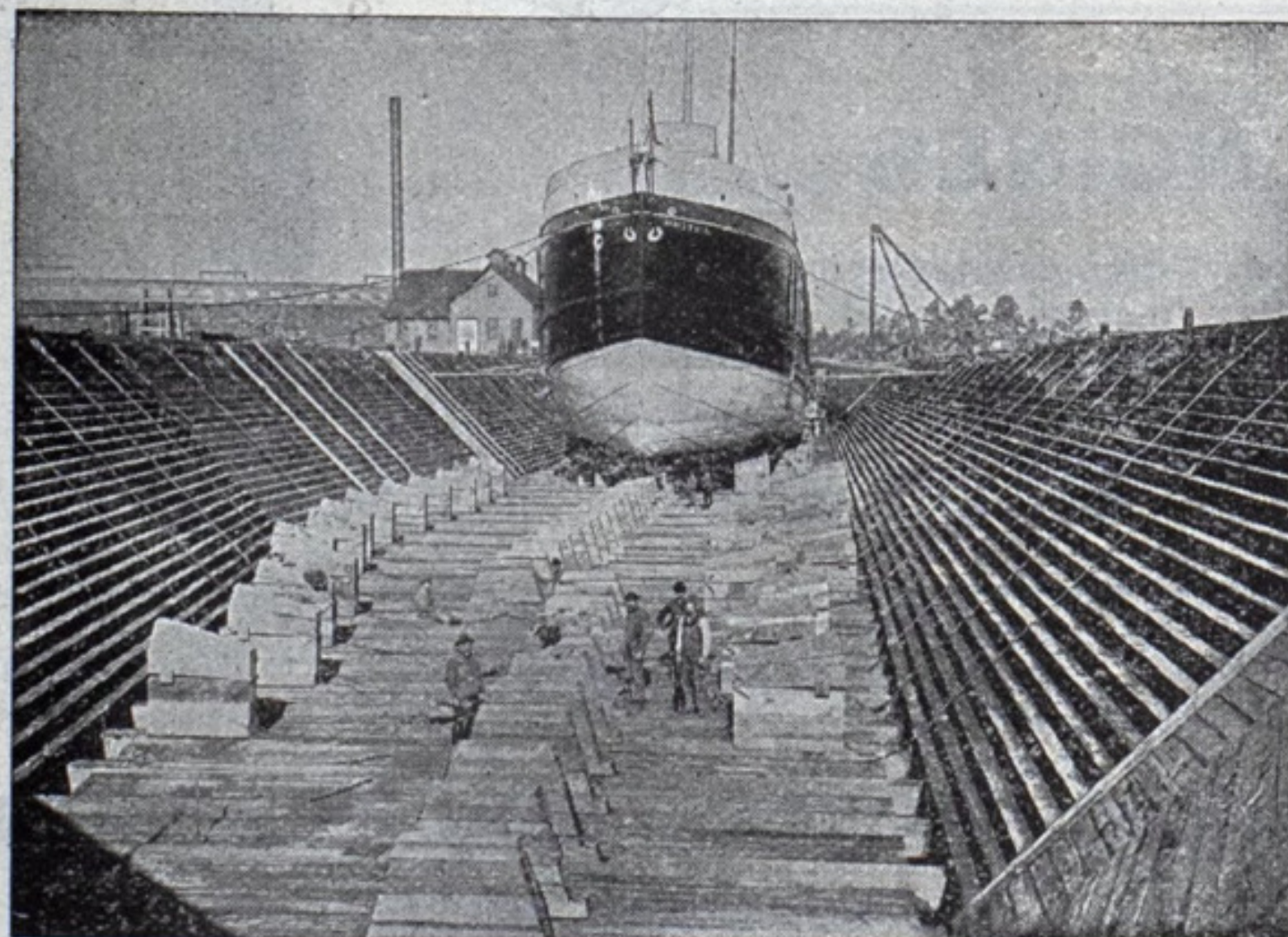
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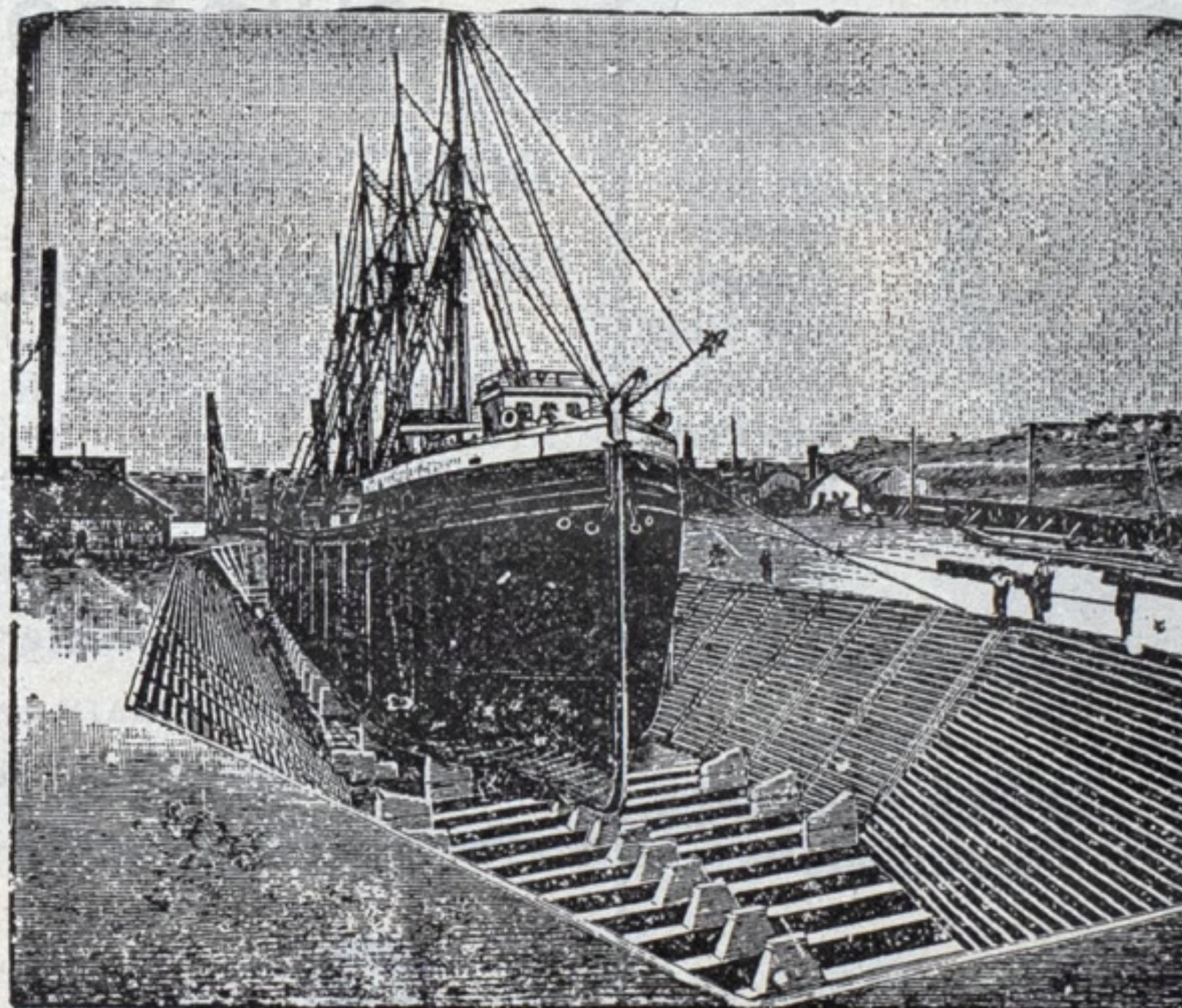
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